



Mexic-Arte Museum
Building Survey and
Feasibility Analysis



June 27, 2011

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Section 1. Executive Summary

H.R. Gray (HRG), in collaboration with Clayton & Little Architects (CLA), analyzed several construction improvement options for the Mexic-Arte Museum (MAM). In addition to H.R. Gray and Clayton & Little Architects, the following personnel and consulting firms assisted with information contained within this feasibility report: The MAM's Building Committee; Stuart Hersh, who provided permitting and code requirements information; Terracon Consultants, Inc., who provided geotechnical information; and Steinman Luevano Structures, LLP who provided structural analysis, hereafter referred to as the "Team. The process of preparing this Building Survey and Feasibility Analysis report took place from March 2011 to June 2011.

In reviewing the various options the Team used several guiding criteria during the analysis. Consideration was provided to the analysis of the existing structure and foundation; review of prior reports and findings of current building conditions; the Bond Agreement with the City of Austin; MAM's desire to take full advantage of the interior space of a 3-story facility; potential design phase and construction phases durations; and funding. Special attention was given to the considerations provided by CLA on historic elements that the Texas Historic Commission (THC) would deem necessary in order to meet potential historical tax credits.

This analysis identified several viable options for renovation as well as new construction. Three options were detailed based on meeting the expressed needs of the MAM resulting in one option fitting within the allotted funding criteria. Option 1 (rehabilitation) provides for removing and replacing the wood floors, salvaging the first level of the interior staircase and maintaining the four perimeter walls by installing structural steel through the roof and upper floors. Option 2 (rehabilitation) provides for salvaging the same existing features, maintaining the existing floors in place while building the structural elements from the ground up. Option 3 (new construction) calls for the demolition of the existing facility and building a new 3-story structure. All options were assigned advantages and disadvantages as well as construction cost estimates.

For Options 1, 1a and 1b – Rehabilitation: Drop-in New Structural Steel

Advantages	Disadvantages
Reuse of existing exterior walls	The integrity of the existing perimeter walls is unknown. If existing walls are left in place while installing new foundations, extreme caution will be required during drilling and/or excavating the new foundation units. If over-excavation or sloughing of soils adjacent to/below the existing wall footings is observed, the excavation efforts could undermine the existing wall footing and result in a loss of foundation support.

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Provides the highest flexibility in the design of the museum, in order to meet code requirements and maximize programmed space	Schemes to rebuild the entire interior of the building with new construction would not meet full approval by THC and may not meet the Historical Tax Credit goal
Easier to obtain permitting (to rehabilitate)	Building is currently not "historic". To meet the eligibility requirements for the Historic Tax Credits, the period of significance for the Congress Avenue Historic District would need to be expanded. This process could be extended or fought by others
Allows for the potential of a roof level conference room and assembly space	Renovation is risky in terms of scope and cost because of the degree of unknowns
Most predictable cost scheme in terms of renovation/rehabilitation	The projected costs and schedule durations can be exceeded due to unknown and/or unforeseen conditions
	Conceptual budget estimate exceeds the maximum \$6.5 million budget criteria

For Options 2 and 2a – Rehabilitation: Build Up Structural Steel with Segmental Trusses

Advantages	Disadvantages
Reuse of existing exterior walls and use of segmented truss system which enables the reuse of existing floor framing which is desired by THC	The integrity of the existing perimeter walls is unknown. If existing walls are left in place while installing new foundations, extreme caution will be required during drilling and/or excavating the new foundation units. If over-excavation or sloughing of soils adjacent to/below the existing wall footings is observed, the excavation efforts could undermine the existing wall footing and result in a loss of foundation support.
THC concurrence of Option 2 and 2a would facilitate the Historical Tax Credit goal	The least predictable cost scheme in terms of renovation/rehabilitation. The projected costs and schedule durations can be exceeded due to unknown and/or unforeseen conditions

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Easier to obtain permitting (to rehabilitate)	Building is currently not "historic". To meet the eligibility requirements for the Historic Tax Credits, the period of significance for the Congress Avenue Historic District would need to be expanded. This process could be extended or fought by others
Allows for the potential of a roof level conference room and assembly space	Renovated building spaces would limit ultimate programming
	Conceptual budget estimate exceeds the maximum \$6.5 million budget criteria

For Option 3 - All New Construction

Advantages	Disadvantages
Provides the opportunity for achieving the longest building life cycle and lowest building maintenance costs	Permitting process may be extended in order to secure a demolition permit
Provides the most predictable cost scheme	All new construction may be perceived as not being environmentally friendly.
Provides better opportunity for achieving museum certification	Limited time for design of a completely new facility
Provides better opportunity for improving the cultural aesthetics in line with MAM's mission	
The conceptual budget estimate (with contingency) for Option 3 meets the maximum \$6.5 million budget criteria	

In the evaluation of construction delivery methods – the "alternative delivery methods" of Design-Build and Construction Manager at Risk were evaluated. Neither delivery method is solely situated to guarantee project success, however in combination with a qualified Project Manager entity experienced in the City of Austin's processes as well as local governmental laws for procuring professional and construction services, we believe that an Alternative Delivery Method (Design-Build or Construction Manager at Risk) would be advantageous in meeting the current schedule obligations in the Bond Funds Agreement between the City of Austin and the Mexic-Arte Museum.

Based on the criteria guiding the analysis, Option 3, All New Construction, provides the most cost effective and functional solution for the MAM. This option would minimize the

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duration of construction, maximize interior space, permit future expansion and contain construction costs to an estimate of \$6.5M.

A summary of the Options and pertinent criteria are outlined in this chart.

Project Features	Option 1	Option 1a	Option 1b	Option 2	Option 2a	Option 3
General Description	Renovation: New Structural Steel Frame including Elevated Slab on Metal Deck, inside Existing Masonry Walls			Renovation: New Structural Steel Frame including Segmented Trusses, LVL Sister Joists and Existing Wood Floor Framing to Remain, inside Existing Masonry Walls		All New Construction with Steel Frame and Masonry Walls
Air-Conditioned space	25,233 s.f.	21,330 s.f.	17055 s.f.	22,730 s.f.	22,730 s.f.	22,730 s.f.
All new interior super structure	X	X	X	N/A	N/A	X
Interior space - column free	X	X	X	X	X	X
Mezzanine level	None	None	None	X	X	X
Proposed Construction Duration	20 months	16 months	14 months	15 Months	12 months	12 months
Conceptual Budget	\$9,365,788	\$7,576,759	\$7,277,153	\$8,109,024	\$6,750,175	\$6,499,195
Project Contingency (included in budget)	\$1,077,285	\$855,613	\$821,086	\$923,291	\$762,805	\$395,000

Section 2. General Information

A. The Mexic-Arte Museum Building

Mexic-Arte has become a highly respected full service cultural landmark and museum. Noteworthy achievements include:

- ♦ The designation by the 78th Legislature of the State of Texas as the "Official Mexican and Mexican American Fine Art Museum of Texas."
- ♦ The holdings in the Permanent Collection range in medium and have been collected over the course of over 30 years. Mexic-Arte Museum's Permanent Collection includes approximately 1500 works of historic and contemporary Mexican, Latino and Latin American art and material culture. A vast majority of the works in the collection are 20th century works. Items in the collection elaborate on many important themes within the humanities, history, popular culture, the historical development of Mexic-Arte Museum itself, among other important themes. The Museum continues to acquire pieces for its collection, all of which additionally serve to educate the public about the art, culture and histories of Mexico, Latin America and the Latino population in the United States. In addition to the artworks, the Museum houses a collection of 4,247 books in a library area.
- ♦ The Museum's agreement with the Mexican government's CONACULTA; the National Council on Arts and Culture, have enabled and will continue to make possible long-term art and artifact loans from Mexico's national museums.
- ♦ A similar agreement to borrow items from Mexican art and cultural material holdings is being negotiated with The University of Texas Museums and libraries.
- ♦ The museum has experienced increased visitation to all of its exhibitions and events, and has developed a solid roster of public education programs.

Mexic-Arte Museum's single biggest impediment to expanding its existing programs and to implementing much-needed new programs is a lack of quality museum space.

Characteristics of Excellence for U.S. Museums from the American Association of Museums are the following:

- ♦ The museum allocates its space and uses its facilities to meet the needs of the collections, audience and staff.
- ♦ The museum has appropriate measures to ensure the safety and security of people, its collections and/or objects, and the facilities it owns and uses.

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- ♦ The museum has an effective program for the care and long-term maintenance of its facilities.
- ♦ The museum is clean and well-maintained, and provides for the visitor's needs.
- ♦ The museum takes appropriate measures to protect itself against potential risk and loss.

The building must meet standards in order:

- ♦ To achieve preserve our collection for the future.
- ♦ To obtain accreditation from the American Association of Museum.
- ♦ To compile with the standards of the National Council on Arts and Culture of Mexico to permit and facilitate short and long term loans.

In addition the Museum building must reflect the Mission of the organization. Mexic-Arte Museum is dedicated to cultural enrichment and education through the presentation and promotion of traditional contemporary Mexican, Latino and Latin American art and culture.

- ♦ The building must be a recognized landmark, one that fully acknowledges Mexic-Arte Museum's position in the cultural life of Texas and the city of Austin.
- ♦ The building must foster pride in all of Mexic-Arte Museum's supporters.

Museums are places that store, preserve and care for cultural material of a community. It is only thorough preservation and learning about the past that we understand ourselves today. It is the hope and dream of the community to build a beautiful and welcoming museum that is reflective of its content and our mission. As the Museum develops and the collection grows they will display the collection and teach about culture and heritage with dignity and pride for generations to come. The development of the Mexic-Arte Museum to its fullest potential will greatly contribute to the quality of life of citizens of Austin for generations to come.

B. Purpose of This Analysis

The Mexic- Arte Museum ("MAM"), a Section 501 (c) (3) organization, located at 419 Congress Avenue, is in the process of analyzing their facility to determine the feasibility of a renovation or new construction project. Based on review of previous documents (Refer to *Exhibit 1.0 Documents Listing and Synopses*), since 1985 the MAM has had several efforts performed to evaluate their existing facility including:

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- ♦ exploratory investigations into the extent of remaining original 1869 building construction
- ♦ property value appraisals of the property in 1999
- ♦ building improvement studies and analyses in 1999, 2000 & 2004
- ♦ structural condition evaluations in 1985, 1986, 1988, 1994, 1999 & 2002
- ♦ strategic outlook and building program study in 2004
- ♦ preservation needs assessments in 2010

During some of these efforts, various opinions and determinations regarding the condition of the facility included:

- ♦ Visual and destructive efforts to determine the extent of original 1860's construction. (Refer to 1985 Report by The Nyfeler Organization – summarized in *Exhibit 1.0 Documents Listing and Synopses* and depicted in Photos 16 and 17 of *Exhibit 10.0 Photographs and Location Plans*)
- ♦ Visual observations of building distress – such as the bowing of the north and south walls and the subsequent installation of a single tie rod, running the full width of the building. (1986 and 1988 reports by George Maxwell Engineers - refer to *Exhibit 3.0 Structural Engineering Report photos*)
- ♦ An estimation of the structural capacity of the existing 2nd and 3rd wood floor framing systems (1994 Report by Structures, refer to *Exhibit 1.0 Documents Listing and Synopses*) was below the required limits for assembly occupancy.
- ♦ A construction materials analysis of the exterior wall plaster (1999 Report by Law Engineering, refer to *Exhibit 1.0 Documents Listing and Synopses*) identified the underlying brick (Austin Commons) and noted the removal of plaster (interior or exterior) would likely damage the brick surface and result in accelerated deterioration.
- ♦ "...the cost of renovating the building to accommodate the specifications in this report in order to house and exhibit collections safely could well far exceed the cost of rebuilding completely on site. Retrofitting existing facilities to meet conservation standards for storage and display of collections is expensive and sometimes not feasible." (Sue Murphy, Museum Preservation Consultant, refer to *Exhibit 11.0 – Excerpt from "Preservations Needs Assessment" report – May 2010*)

On March 16, 2011 H.R. Gray, in conjunction with Clayton & Little Architects, was contracted to provide Mexic-Arte Museum with a comprehensive building survey and feasibility analysis effort resulting in a report with specific options/programs involving renovation and new construction including appropriate cost estimates and pertinent risk

assessments for each option. In collaboration with the MAM's Building Committee consisting of:

- ♦ Stuart Hersh, Chair Building Committee
- ♦ John Hogg, President of the Board of Directors
- ♦ Jeff Utterback, Board Member
- ♦ Michael Candelas, Board Member, Member at Large, Place 1
- ♦ Frank Cardenas, Board Member, Member at Large, Place 2
- ♦ Sylvia Orozco, Executive Director
- ♦ Frank Rodriguez, Finance and Administrative Director
- ♦ David Garza, Community Member

H.R. Gray and Clayton & Little Architects analyzed several construction improvement options in an effort to realize a conceptual \$6.5 million project for the Mexic-Arte Museum.

C. Current Funding Agreements

In August 2006, the City Council of Austin passed a resolution on a Bond Issue that included the issuance of general obligation bonds, the proceeds of which would be used for various projects including among many items, cultural facilities such as the MAM. Proposition 4 was approved by Austin voters on 7 November 2006, for \$5,000,000, hereinafter referred to as the "Bond Funds". As a result, the *Improvement of Cultural Facilities for Public Use Funded with Bond Funds* Agreement was executed between the City of Austin and MAM.

The *Improvement of Cultural Facilities for Public Use Funded with Bond Funds* Agreement between the Mexic-Arte Museum (MAM) and the City of Austin, Texas (COA) requires various "milestone deliverables" and approvals throughout the planning, design and construction phases, which among them are:

- ♦ A complete Feasibility Study to be completed and submitted to COA by MAM prior to the commencement of the Schematic Design Phase. The Feasibility Study must confirm that the proposed scope of work is within the \$5,000,000 budget plus other funds that MAM has raised.
- ♦ Design phase "Milestone Deliverables" including: schematic design, design development, 50% Construction Documents and 100% Construction Documents

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- ♦ Construction phase "Milestone Deliverables" including: monthly LEED reports; monthly progress reports; updated schedules; quarterly MBE/WBE Compliance Reports; prevailing wage rate reports; half-size as-builts (record drawings); Owners Operation and Maintenance Manuals; final M/WBE reports; final prevailing wage reports; completed documentation of LEED; completed documentation verifying implementation of hazardous material testing and abatements as required by law.
- ♦ Post-construction phase "Milestone Deliverables" including warranty phase reports.
- ♦ An updated Comprehensive Asbestos and Lead Survey Report

Additionally, MAM has received an additional grant from the Economic Development Administration which requires engaging directly with the Texas Historical Commission. Since the Mexic-Arte Museum is not "historic" in the National Register of Historic Places, as suggested by the THC, a re-evaluation of the period of significance through an update of the Congress Ave Historical District. (Refer to *Exhibit 9.1 THC/CLA Meeting Minutes – April 8, 2011 Letter*) This would be required to "qualify" the building for inclusion. This would require the Museum to revise the NRHP nomination to expand the period of significance and the boundaries which would be done concurrently with the planned work on the building. As noted in *Exhibit 9.1 – THC/CLA Meeting Minutes – April 8, 2011 Letter*, Item No. 6, it was estimated the entity to file the required documents could be MAM, COA or other interested parties; the review process could take 3 months, could cost between \$20,000 and \$30,000 if performed by a private consultant and could take 6-9 months to complete.

MAM is further committed to obtaining further funding through New Market Tax Credits under another Federal Program.

The current budget is \$6.5 million comprised of: \$5 million in COA bonds, \$0.5 million in EDA grant money and \$1.0 million in capital campaign pledges. In order to meet the obligations of both the Bond Fund agreement and the EDA Agreement, MAM has elected to perform an updated Building Survey and Feasibility Analysis.

D. Scope of Work

The Mexic-Arte Museum (MAM) has occupied 419 Congress Avenue since 1988. The existing three story building originally constructed in 1869 has been renovated many times and its exterior no longer represents any particular period of architecture. (1985 and 1986 Reports by The Nyfler Organization, refer to *Exhibit 1.0 - Documents Listing and Synopses*,). The buildings structure consists of exterior load bearing walls, wood joist and wood flooring, interior steel and wood columns. The building's exterior is

stucco over the masonry brick walls. The existing use of the MAM is shown on *Exhibit 8.0 – Program Plans – Existing Use*.

The overall efforts performed under this Building Survey and Feasibility Analysis included:

1. *Existing Documentation Overview* – The first major work activity for this Building Survey and Feasibility Analysis effort included a comprehensive technical review of all existing documentation provided by MAM, relevant to past facility assessment efforts. The technical review was performed to evaluate, organize and develop summaries of information, so as to provide an understanding of previous efforts related to assessing the buildings condition and feasibility for rehabilitation. (Refer to *Exhibit 1.0 – Existing Documents Listing and Synopses*.
2. *Geotechnical Engineering Efforts* – Based on the existing information review, it was confirmed that no comprehensive evaluation of the existing foundations had been performed. The Geotechnical Engineering approach (Refer to *Exhibit 2.0 - Geotechnical Consulting Report* dated May 20, 2011), included a logical progression that included:
 - analysis of available geotechnical documentation in the general vicinity of the site
 - development of additional testing program to evaluate the capacity of the existing foundations
 - implementing a field work program ("test pits" which included removal of existing slab and hand excavations to uncover existing foundations) See *Exhibit 10.0 Photographs and Location Plans*, Photos 12-14
 - coordination of the geotechnical engineer's observations of each "test pit"
 - developing geotechnical engineering recommendations with respect to possible renovation and new construction schemes

Per the Terracon Consulting Report, points worthy of emphasis include:

- a. A dry-stacked stone or rubble footing condition was observed at the southwest corner and along the north wall
- b. A concrete footing supporting a well mortared brick wall was observed at the southeast corner.
- c. It is impossible to know whether the majority of the existing foundations consist of dry-stacked stone or rubble footings, rather than reinforced concrete footings.

- d. While no actual geotechnical investigation on the MAM site was performed, boring information from the adjacent Frost Tower Bank site were summarized and used for reference
 - e. The existing soils excavated during the test pits, consisted of clayey sandy soils and without additional borings directly on the site, the Geotechnical Engineer recommended the most feasible foundation system to be drilled piers bearing on Austin Group limestone, with an alternative for concrete spread footing foundations.
 - f. If existing walls are left in place while installing new foundations, extreme caution will be required during drilling and/or excavating the new foundation units. Specialty limited-access drilling rigs will be needed for pier installation.
 - g. If over-excavation or sloughing of soils adjacent to/below the existing wall footings is observed, the excavation efforts could undermine the existing wall footing and result in a loss of foundation support.
 - h. If existing walls are left in place, initial surveys and continuous daily monitoring should be implemented to check for signs of movement and/or distress during construction activities.
3. *Structural Engineering* – Based on the existing information review, it was confirmed that several structural engineering concerns had been observed, evaluated and documented (Refer to *Exhibit 1.0 Documents Listing and Synopses*). The Structural Engineering approach (Refer to *Exhibit 3.0 - Structural Engineering Report* dated June 8, 2011) included a logical progression for furthering the analysis, that included:
- analysis of available structural documentation
 - development of additional testing program to evaluate the capacity of the existing foundations
 - implementing a field work program ("test pits" which included removal of existing slab and hand excavations to uncover existing foundations)
 - coordination of the structural engineer's observations of each test pit
 - evaluate and make structural engineering recommendations with respect to possible renovation and new construction schemes

Per the Steinman Luevano Structures Report, points worthy of emphasis include:

- a. Previous engineering opinions of the condition of north and south walls (bowed out) as well as the interior columns being out of plumb.

- b. Discussion of the "bowing" of the north wall, the ¾ inch tie rod used to supposedly stabilize the "bow" and the interior columns being out of plumb – renovation of the existing structure is focused around stabilizing and keeping the existing exterior walls
 - c. Inconsistent and fair to poor condition of the existing wood floor joists framed into the existing masonry walls i.e. notched, water damaged
 - d. Shallow spread footings were considered in lieu of drilled piers, however given the soil conditions and estimated bearing capacities, they would need to be very large and deep. Given that these spread footings would be constructed inside the existing walls and foundations, the potential for eccentric loading and over-stressing the soils on one side of the footing, made this foundation option less desirable.
 - e. Recommendation of additional connections between the masonry walls and floor system, if renovation is not anticipated in the near future.
4. *Environmental / Asbestos Survey* – Previous efforts were performed by Terracon Consultants (formally HBC Engineering) in 1999 where minimal asbestos containing material was identified in a 2nd floor mechanical room (Refer to *Exhibit 1.0 Documents Listing and Synopses*). It was confirmed with Terracon, that since the condition of the facility has not changed since 1999, an updated environmental and asbestos surveys by Terracon would best be performed during the design phase of the final project.

E. Project Overview

Given the MAM project site, at 5th Street and Congress Avenue, and the potential for either a rehabilitation or new construction project – there were many considerations, assessed during the feasibility analysis including:

- Due to the Museum's programmatic need to achieve assembly uses on the ground floor and upper stories and other occupancies on all levels, and the findings by the Geotechnical and Structural Engineers that the existing foundations and walls cannot support any additional load, a new structural frame and foundation will be required.
- The complexity of a project at this location and the particular scope of work will require a strategic construction phasing approach to minimize construction duration, and consequently, MAM relocation costs. Careful phasing of selective demolition and new construction will be required throughout.

- Because of the location of the project in the Central Business District, premium costs can be expected for the General Conditions and certain portions of the work.
- Compliance with LEED and/or Austin Energy Green Building Standards will have a cost impact on the project.
- Depending on the final design for the routing of new utilities and the work on the exterior of the building the Contractor will be required to close off portions of the street, sidewalk and alley for utility work. Portions of this work will need to be night work (double shift costs) due to the activity level in the downtown area.
- Staging on the sidewalk will be needed and will require a Right-of-Way permit.
- Project Management services would include, but not be limited to: Architect/Engineer Consultant procurement; A/E Consultant Contract Negotiation and Administration; Design-Build Team or CMAR procurement process development; Design-Build Team or CMAR Contract Negotiation and Administration; Contract Closeout and Warranty Phase Administration.
- Minority Business participation will have a cost impact to the project. Dependent upon market conditions at the time of construction letting, these requirements may add to the cost of construction.
- For rehabilitation, many structural framing options, with particular approaches to integrating the existing structural elements to provide temporary support to the existing shell walls are possible.
- For new construction, structural framing options could vary from steel and curtain wall glazing, steel and precast concrete or cast-in-place concrete.

F. Functional Objectives

The Mexic-Arte Museum desires to have a fully functional multi-story facility with many pertinent attributes including: permanent and temporary exhibition spaces, a first level museum store, event preparation space, load in/out area, ADA accessibility, storage, offices, a library, wood shop, circulation space, reception area, fire detection and suppression, micro-climate controls for varied spaces including temperature and relative humidity, public meeting rooms, exhibition appropriate lighting, and the ability for full assembly occupancy during their events.

It is also noted that the City of Austin has not issued a Certificate of Occupancy for assembly above the ground floor, which currently limits the use of the MAM facility. We understand that the previous use of the building had been retail, office and storage and

during the 1980's when the new use of the building included assembly, the building official requested an engineer's report to demonstrate assembly capacity. Based on the engineers report, and findings that the existing capacities were well below acceptable/required capacities, the upper floors have never achieved an occupant load card.

G. Documents Used in this Analysis

The technical review of all existing documentation provided by MAM, relevant to past facility assessment efforts was performed to evaluate, organize and develop summaries of information, so as to provide an understanding of previous efforts related to assessing the buildings condition and feasibility for rehabilitation. (Refer to *Exhibit 1.0 Documents Listing and Synopses*)

H. Project Delivery Considerations

Per the Bond Funds Agreement between the City of Austin (COA) and Mexic-Arte Museum (MAM), requirements that will directly affect or influence the Project Delivery Method include:

1. The construction of improvements must begin no later than June 30, 2012 and be completed no later than December 31, 2013.
2. A/E and Contractor Services must be procured according to applicable laws, including applicable City ordinances and resolutions, related to public procurement.
3. Procurement of the Project Manager services.
4. Procurement of the Architect/Engineering services according to applicable laws related to public procurement.
5. COA review and approval of procurements, which if paid for by bond funds, must follow City procurement policies.
6. Adherence to M/WBE ordinance in design and construction.
7. Submittal of plans to the Design Commission.
8. Obtaining all required zoning, site plan and building plan approvals.
9. COA has the right to review and participate in the approval of the A/E procurement process, the committee selection of the A/E short list and the final selection of the A/E by MAM.
10. COA has the right to review and participate in the approval of the Contractor procurement process, the committee selection of the Contractor short list and the final selection of the Contractor by MAM.

11. MAM must incorporate the standards and principals of the M/WBE ordinance into its development process. Professional Services Participation goals are set at 30.7% (1.7% African American-Owned, 9.5% Hispanic Owned, 5.3% Asian and Native American and 14.2% Women Owned). Construction Participation goals are set at 25.5% (1.7% African American-Owned, 9.7% Hispanic Owned, 1.5% Asian and Native American and 12.6% Women Owned).

Delivery Methods and Project Management Overview

It is important to distinguish between the delivery and management aspects of "project delivery methods". "Delivery" refers to the method for assigning responsibility to an organization for providing design and construction services. "Management" refers to the means for coordination and oversight during the overall process of design and construction (planning, staffing/procuring, organizing, budgeting, scheduling, quality monitoring). For the MAM, it is anticipated that a Project Manager entity will be hired and be responsible for providing the efforts necessary to procure the design and construction entities, in accordance with applicable laws as required by the Bond Funds Agreement. In general, the assumed management services to be provided by MAM's Project Manager entity would include: Architect/Engineer Consultant procurement; A/E Consultant Contract Negotiation and Administration; Design-Build Team procurement process development; Design-Build Team Contract Negotiation and Administration; Contract Closeout and Warranty Phase Administration.

There are essentially three Project Delivery methods available to the MAM:

1. Design-Bid-Build (commonly referred to as "Traditional")
2. Construction Management at Risk
3. Design-Build

Construction Management at Risk and Design-Build are referred to as *Alternative Project Delivery Methods* allowed by Subchapter H of Chapter 271 of the Texas Local Government Code.

For a general understanding about the three delivery methods, the following information presents generic characteristics for each.

Design-bid-build project delivery is identified by:

- Three prime players—owner, designer, builder
- Two separate contracts—owner-designer, owner-builder(contracting)
- Final contractor selection based on lowest responsible bid
- There are three linear sequential phases—design phase, bid/award phase, build or construction phase

- Contract documents that are typically completed to 100% before Contractor is hired.

Construction Manager at Risk (CMAR) project delivery is identified by:

- Three prime players—owner, designer, CMAR
- Two separate contracts—owner-designer, owner-CMAR
- Final CMAR selection based on best value to Owner by established evaluation criteria
- Overlapping phases—design and build (fast track)
- Hiring of the CMAR early in the design phase
- Preconstruction services (during design phase) provided by the CMAR (such as constructability review, estimating and package management).

Design-build project delivery is identified by:

- Two prime players—owner, Design-Build Team
- One contract—owner to Design-Build Team
- Final D-B Team selection based on best value to the Owner based on established evaluation criteria
- Overlapping phases—design and build (fast track)
- Design Criteria Package (Bridging Documents) per Subchapter H of Chapter 271 of the Texas Local Government Code, developed by Owner or Consultant (bridging consultant)
- Enhanced project planning and scheduling by the Design-Build Team prior to mobilization (made possible by the single point of responsibility)
- Either cost or solution could be set as the basis for selection of the design-build entity.

Project Delivery Comparisons

For the MAM project, in coordination with the expected management oversight to be provided by the MAM Project Manager entity, either the Design-Build with Bridging OR Construction Manager at Risk delivery methods could be utilized for either the **renovation or new construction option**. There are numerous opportunities and considerations associated with each delivery method, and depending upon the scope of work –renovation or new construction - either delivery method can enhance the overall process.

1. Design Build (Refer to Exhibit 4.0 Schedules: Design-Build)

Design-Build Delivery Schedule - Preliminary activities and associated notes include:

- a. Since the Project Manager Entity, as the Owner's Representative, would be responsible to develop and oversee the procurement process, MAM could require the PM include a design capable sub-consultant to produce the "bridging

documents". The Design Criteria Package can be detailed as necessary to assure the design completion milestones are clearly understood as well as the required "review and approve" deliverables required by the MAM and the City of Austin. A Guaranteed Maximum Price (GMP) can be required at any point – at the beginning, the middle or the end of the design phase.

- b. The Project Manager, immediately upon initiating services, would need to prepare the Design Build Procurement process (including M/WBE Participation Goals) for submittal to the City of Austin. Although the Bond Fund Agreement notes 10 business days for City Review – we allotted a total of 21 calendar days to account for some review cycles before final is approved.
- c. The Project Manager entity can simultaneously produce the required procurement documentation (Design Criteria Package as well as required DBT procurement forms) necessary to scope the project and procure the Design Build Team – we allotted 98 days (just over 3 months) to produce the approximate 30% Design documents (bridging documents). Options between renovation and entirely new construction could be requested and presented by the Design-Build Team along with construction cost estimates for MAMs consideration. The City of Austin would probably require a final approval of the final Design-Build procurement documents before advertising – it is assumed this approval would happen within the 98 days.
- d. We allotted 70 days or approximately two months for procurement of the Design-Build Team – this would include the required two weeks of advertising, the pre-response meeting, addenda issuance, receipt of proposals and evaluation and ranking of all proposals.
- e. The completion of the design, using the Design Criteria Package as a basis of work, would be performed by the Design-Build Team. We allotted 154 days for this activity, assuming that early packages would be defined and completion of this phase would coincide with the last bid packages i.e. finish out.
- f. Early package identification would assure construction started on or before June 01, 2012.
- g. Given the finite time between now and June 1, 2012, the Design-Build approach would facilitate the start of design approximately mid October 2011.

2. **Construction Management at Risk** (Refer to Exhibit 4.0 Schedules: CM at Risk)

Construction Manager at Risk Delivery Schedule - Preliminary activities and associated notes for each include:

- a. The Project Manager, immediately upon initiating services, would need to prepare the Architect/Engineer Procurement process (including M/WBE

Participation Goals) for submittal to the City of Austin. Although the Bond Fund Agreement notes 10 business days for City Review – we allotted a total of 21 calendar days to account for some review cycles before final process is approved.

- b. During the execution of the A/E procurement phase, which we allotted 91 days for, the Project Manager would need to develop the CMAR procurement process and submit for approval by COA. The City of Austin is familiar with CMAR project delivery. The A/E Professional Services agreement would need to reflect CMAR delivery and the associated preconstruction services phase.
- c. During the execution of the CMAR procurement process, the A/E would initiate design phase work i.e. schematic design.
- d. Once the CMAR was procured, they would immediately engage in preconstruction services including: packaging strategy, estimating, and constructability reviews.
- e. Early package identification would assure construction started on or before June 01, 2012.
- f. CMAR's preconstruction services would end with final package identification.
- g. Given the finite time between now and June 1, 2012, the CMAR approach would facilitate the start of design approximately mid January 2012.

3. Construction Phase Considerations

There are numerous issues that would need to be properly accounted for during the construction phase – regardless of the project delivery method. Those issues include:

- a. Strategic and careful phasing of selective demolition (if required) and new construction to minimize construction duration as well as MAM relocation costs.
- b. Due to the activity level in the downtown Central Business District, this particular site location may require some portions of the work be constructed at night (double shift costs) .
- c. Dependent on the construction duration and the respective scope of work, i.e. rehabilitation or new construction, an off-site material staging area in the general proximity of the construction site may be necessary.
- d. New foundation construction will be required and constructing as part of the rehabilitation option, (within the existing perimeter walls/foundations), will require specialized construction equipment.
- e. For rehabilitation, limited site conditions combined with working within the existing perimeter walls will require a strategic construction approach by an experienced renovation contractor. Requiring a specialized renovation contractor will result in higher costs.

- f. For renovation the unknown structural integrity until construction renovation begins could result in additional costs/risks/time.
- g. All New Construction provides the ability to maximize available construction funds to build a facility that can meet the majority of MAM's needs.
- I. **LEED CI Silver Certification**
Clayton & Little Architects provided *Exhibit 5.0 - LEED Goal Summary* which was prepared with input from Stuart Hersh, Mexic-Arte Facilities Committee Chair. A preliminary LEED Goal Worksheet has been provided for the possible points and associated credits that could be pursued. Whichever project scope, renovation or new construction, is decided upon, the requirements for the desired LEED (or Austin Energy Green Building program) certification should be incorporated into the Architect/Engineers and Contractor's agreement.
- J. **American Museum Association Standards** *PROJ. CENTER*
Based on a preliminary search for these standards, we learned there is no single set of standards – such as a fixed checklist of specific criteria – but instead the Museum Accreditation Commission has made available a guideline document entitled "Characteristics of an Accreditable Museum".
(<http://www.aam-us.org/aboutmuseums/standards/index.cfm>)
Whichever project delivery method is utilized, requirements for the design and programming to conform to the current American Museum Association Standards should be incorporated into the Architect/Engineers and Contractor's agreements as needed.
- K. **Historic Tax Credits**
Clayton & Little Architects (CLA) coordinated with the Texas Historical Commission on the rehabilitation option. CLA recommends working closely with the Texas Historical Commission to fulfill the requirements of the Historic Preservation Tax Incentives, which offers a possible 20% "tax credit" for qualified rehabilitation costs, including hard and soft costs. Some items are excluded from eligibility and should be defined. Specific information can be found at
http://www.nps.gov/history/hps/tps/tax/download/HPTI_brochure.pdf
and http://www.nps.gov/hps/tps/tax/download/IRS_FAQs.pdf

Reference documents obtained by CLA during their coordination of the rehabilitation option, include concurrence letters dated June 6, 2011 from the THC (*Exhibit 9.0 Texas Historical Commission – June 6, 2011 Letter*) and The City of Austin's – Historic Preservation Office (*Exhibit 9.2 COA Historic Preservation office – June 6, Letter*). As noted in *Exhibit 9.0 Texas Historical Commission – June 6, 2011 Letter*, the building is considered eligible for listing in the NRHP, as part of a potential expansion of the Congress Avenue Historic District. As noted in the THC letter, "...In order for the building to be certified as a historic property for the purposes of the federal preservation tax credit program, it will be necessary to revise the Congress Avenue NRHP nomination to expand the period of significance and perhaps the boundaries as well, due to numerous changes made in the area since the 1978 nomination." As noted in *Exhibit 9.1 – THC/CLA Meeting Minutes – April 8, 2011 Letter*, Item No. 6, the entity to file the required documents could be MAM, COA or other interested parties and could take 3 months to prepare and cost between \$20,000 and \$30,000, if performed by a private consultant. Item No. 6 also notes the review process could take 6-9 month to complete.

L. Historical Review and Outcome

419 Congress, known as Mexic-Arte Museum, is listed as a contributing property in the Congress Avenue Historical District, which was listed in the National Register in 1978. The description of 419 Congress included in the Congress Avenue Historic District states: *"What remains of this three-story brick structure leaves much to the imagination. The few 6 over 6 windows that have not been filled in are reminders of Classic Revival proportions. Although severely altered, the rear portion of the building shows a construction of early, mixed, poor quality brick, perhaps expressive of the hard times following the Civil War".*

Based on information provided, we understand that in mid 2002, the Historic Landmark Commission recommended changing the zoning of the Mexic-Arte Museum to CBD-H (Central Business District – Historic). Based on findings presented in the 1985 Report by The Nyfeler Organization (Refer to *Exhibit 1.0 – Existing Documents Listing and Synopses*) and additional Information presented during the zoning hearing in November 2002, the Austin City Council, voted to deny staff recommendations. The current building is not registered as "historic".

Section 3. Option Number 1, 1a, 1b – Rehabilitation: Drop-in New Structural Steel

A. Description

Features common to all Options 1, 1a & 1b:

- New foundations and structural steel frame inside existing masonry walls which provides for 3 levels of structure and a roof.
- HVAC - Variable Refrigerant Flow System for all floors;
- Passenger elevator – 3500 lb Gen2 MRL Traction Elevator;
- Bond Issuance Costs of \$187,000 and AIPP Costs of \$87,000;
- Steps to construct...
 - ♦ Salvage wood flooring on ground floor,
 - ♦ Salvage all material non structural i.e. stairs, windows,
 - ♦ Demo and salvage existing storefront,
 - ♦ Demo ground floor slab on grade,
 - ♦ Demo mezzanine level,
 - ♦ Drill piers with low overhead equipment
 - ♦ Construct grade beams and pier caps
 - ♦ Pour ground floor slab
 - ♦ Demo small holes in flooring and roof above pier caps to allow for columns to be installed the full height of the building,
 - ♦ Install columns (Columns will create 5 bays in the building),
 - ♦ Demo one bay of a floor at a time,
 - ♦ Install each bay system's structural beams and joists and tie to existing masonry wall before proceeding to next bay,
 - ♦ Pour slab on metal deck above new beams and joists and tie to existing masonry wall,
 - ♦ Precede in this fashion for each floor,
 - ♦ Install elevator and stair shaft in corresponding bays,
 - ♦ Once new structure is completed, finish out interior space and reinstall salvaged material.

Option 1 – New Structural Steel Frame inside Existing Masonry Walls with Roof Level Glass Enclosed Conference Room – this includes:

- Gross square footage utilized for estimating purposes – 25,233 s.f. (Floors 1, 2 & 3 at 7110 s.f. each plus 3903 s.f. for roof level glass enclosed conference room);
- Assumed construction duration of 20 months;
- Assumed finish-out for 1st, 2nd and 3rd floors
- Restrooms – 2 per floor (Floors 1, 2 & 3)

Option 1a – Option 1 with No roof level glass enclosure;

- Gross square footage utilized for estimating purposes – 21,330 s.f.
- (3 floors at 7110 s.f each);
- Assumed total finish out for 1st floor only
- shell finish out only on 2nd and 3rd floor ;
- no roof level glass enclosure (however foundations were sized to provide ability to add later);
- Assumed construction duration of 16 months;
- Restrooms – 2 per floor (Floors 1, 2 & 3)

Option 1b – Option 1a with 2/5 of 2nd Floor (ability to build 3 bays later) includes:

- Gross square footage utilized for estimating purposes – 17,055 s.f. (1st & 3rd floors at 7110 s.f/each and 2nd floor at 2835 s.f.);
- Assumed finish out for 1st floor only (none on 2nd and 3rd floor) ;
- no roof level glass enclosure (however foundations were sized to provide ability to add later);
- Assumed construction duration of 14 months;
- Restrooms – 2 per floor (Floors 1, 2 & 3)

B. Assumptions for Rehabilitation: Drop-In New Structural Steel

1. On April 4, 2011 Clayton & Little Architects distributed a "written and diagrammatic Summary-in-Progress of the Program for the MAM. (Refer to *Exhibit 8.1 Program Summary and Diagram*) The scope of work presented in these plans developed by CLA was later coordinated with the Texas Historical Commission. This scope of work formed the basis for estimating Options 1, 1a and 1b.
2. It will be essential for the efficiency of the project to have access to a material staging area in the general proximity of the construction site. Leasing of property/area for up to 7 months (until building shell is up) will be required.
3. Design-Build with Bridging is the recommended project delivery method. It is also recommended that Professional management oversight by a Project Management/Owner's Representative consultant be implemented.
4. DB Team procurement will require preparation of "Bridging" documents by an Architect/Engineer Consultant.
5. Limited site conditions combined with working within the existing structure's walls will require a strategic construction approach by an experienced renovation contractor. Requiring a specialized renovation contractor will result in higher costs.

6. East Façade Work will include: repair/replace missing or damaged brick; 4 new metal doors; new interior roof drain system.
7. West, North and East Facades: All existing windows will be refurbished and restored.
8. West and North Facades: New metal canopy; repair damaged stucco throughout; remove existing "custom stone" veneer.
9. Structural steel columns dropped in through rough-cut openings in the roof, 3rd floor and 2nd floor.
10. Complete removal of existing HVAC Systems was included. Some salvage of materials could be considered.
11. Early demolition phase would include removal of storefront and "custom stone" veneer at the northwest corner of the building for equipment access into the building, allowing for slab on grade removal and preparation for pier and grade beam construction.
12. Interface between new structural steel frame and existing masonry shell walls will require engineered attachment systems.
13. Reuse of as much existing wood floor finish/framing material as possible will be incorporated into project.

C. Constraints and Challenges

1. Existing architectural issues – The building has undergone several major renovations since original construction in the 1860's. There are various architectural issues for the existing structure including, but not limited to: "unknown wall penetrations (Refer to Photos 1, 9 and 10); substantial veneer cracks (Refer to Photos 2-5, and 11); obsolete fire escape on west elevation (Refer to Photos 6 and 7); deteriorated or inoperative windows (Refer to Photos 1, 7, and 8); leaking roof and various indications of moisture penetration into the building envelope (Refer to Photo 18); no heating/ventilation/air conditioning (HVAC) for the upper two floors; no ADA accessibility compliance; no functioning restrooms on each floor; masonry walls are un-insulated; and batt insulation under the roof was not evident.
2. Existing structural issues – As noted in referenced structural engineering reports there are various structural considerations within the renovation approach including: the condition of the existing ¾" tie rod (Refer to *Exhibit 3.0 – Structural Engineering Report*, photos); inconsistent existing foundations (Refer to Photos 12, 13 and 14); issues related to working around the existing perimeter walls such as temporary bracing and the permanent engineered attachments to the new structural frame. The integration of a new structural frame within the existing walls is also a major

challenge. We also understand that in December 2004, the building experienced damage from wind and rain storms which included damage to half of the roof parapet walls and the existing built-up roof. As a result of this 2004 event, there was significant rain penetration through the roof and all upper floors, ultimately reaching the ground floor gallery. After this event the entire roof was replaced, but no other extensive investigations or repairs to other floors/wood framing was conducted/completed.

3. Existing MEP issues – The existing mechanical system only services the first floor and mezzanine. The existing electrical system will require a service upgrade. The existing plumbing system fixtures and system are insufficient to comply with intended facility usage as well as current codes. Existing freight elevator does not comply with current codes.
4. The historic component – As reported by Clayton & Little, with the 1936 photograph and era as the target goal for rehabilitation and per the coordination with the THC, Clayton & Little advised this option would not meet THC desires and therefore recommended the development of Option 2.
5. Master plan/zoning issues – Due to the existing site being located within the Congress Avenue Historic District, Historic Landmark Commission review will be required before a demolition permit or a building permit will be issued. This will be true even if the activities were to be limited to interior demolition and exterior and interior rehabilitation. Coordination with the City's Historic Preservation Office, who provides guidance and assistance on this review process, will be required.
6. Building Code/permitting issues – During previous assessments and confirmed during this analysis effort, various code deficiencies have been identified including: structural frame load capacities, exit stairs, inadequate plumbing fixtures, and obsolete electrical service. Clayton & Little Architects has provided *Exhibit 7.0 Building Code Summary* and *Exhibit 7.1 COA/CLA Meeting Memorandum 5-27-11* which was prepared with input from Stuart Hersh, Mexic-Arte Facilities Committee Chair, Ron Menard, City of Austin and David Deming, a State of Texas Registered Accessibility Specialist. These documents outline the requirement for rehabilitation.

D. Advantages and Disadvantages

Advantages	Disadvantages
Reuse of existing exterior walls	The integrity of the existing perimeter walls is unknown. If existing walls are left in place while installing new foundations, extreme caution will be required during drilling and/or excavating the new foundation units. If over-excavation or sloughing of soils adjacent to/below the existing wall footings is observed, the excavation efforts could undermine the existing wall footing and result in a loss of foundation support.
Provides the highest flexibility in the design of the museum, in order to meet code requirements and maximize programmed space	Schemes to rebuild the entire interior of the building with new construction would not meet full approval by THC and may not meet the Historical Tax Credit goal
Easier to obtain permitting (to rehabilitate)	Building is currently not "historic". To meet the eligibility requirements for the Historic Tax Credits, the period of significance for the Congress Avenue Historic District would need to be expanded. This process could be extended or fought by others
Allows for the potential of a roof level conference room and assembly space	Renovation is risky in terms of scope and cost because of the degree of unknowns. If existing walls are left in place while installing new foundations, extreme caution will be required during drilling and/or excavating the new foundation units.
Most predictable cost scheme in terms of renovation/rehabilitation	The projected costs and schedule durations can be exceeded due to unknown and/or unforeseen conditions
	Conceptual budget estimate exceeds the maximum \$6.5 million budget criteria

E. Schedule

It was estimated the construction duration for Options 1, 1a and 1b varied from 20 to 14 months, respectively. (Refer to *Exhibit 6.0 – Conceptual Budgets Summary*). Since Option 1b still did not fulfill the MAM’s conceptual budget criteria of \$6.5M, no further development of a corresponding preliminary schedule for Options 1, 1a and 1b was performed.

F. Opinion of Probable Cost

The architectural programming effort was coordinated and developed by Clayton and Little Architects (CLA). On April 5, 2011 CLA issued their preliminary findings – which established the general basis for estimating Options 1, 1a and 1b. (Refer to *Exhibit 8.1 Program Summary and Diagram*). The conceptual budgets for Options 1, 1a and 1b were \$9.4 million, \$7.6 million and \$7.3 million, respectively and did not meet MAM’s conceptual budget criteria of \$6.5M. The Conceptual Budget estimate and short summary of some of the scope features included in Options 1, 1a and 1b are shown in *Exhibit 6.0 Conceptual Budget Summary*.

G. Risk Analysis

There are numerous activities with inherent process risks since they involve review and approvals by entities other than MAM. For example, permitting durations are unknown and will be heavily dependent upon the scope of work – i.e. renovation vs. new construction. Overall durations of each milestone deliverable review process are unknown and also dependent on the scope of work – i.e. renovation vs. new construction.

Other processes with unknown degrees of risks include: the revision to the Congress Avenue Historic District’s period of significance in order to be eligible for the 20% Historic Tax Credit; the development of Architect/Engineer and/or Contractor procurement processes outside of the City’s standard processes, and the required Historic Landmark Commission Review.

There are numerous schedule risks. Reviewing the preliminary Design-Build and Construction Manager at Risk schedules (Refer to *Exhibit 4.0 Schedules*) presented in calendar day format include some tight and aggressive activity durations. While the specific durations required for the permitting process such as Landmark commission review were not delineated in either schedule, they were assumed to be included in the overall design phase durations. Per the COA Bond Agreement, if the City is paying for Architect/Engineer Services, procurement must be made “using the City’s procurement

documents". Based on previous information provided by the City of Austin, their estimates for procuring professional services are 5-6 months and 5-6 months for procuring contractor services.

There are numerous cost risks. Rehabilitation/renovation work is more expensive because of the degree of unknown conditions. In the case of the rehabilitation of MAM's existing facility, those budget risks are higher, given the condition of the existing facility as well as the fact the scope of work would be completed within the existing load bearing masonry walls and foundations.

Section 4. Option Number 2, 2a – Build up structural steel

A. Description

Features common to both Options 2 & 2a:

- THC's desired reuse of existing wood floors, at 2nd and 3rd level, finish/framing material with added structural steel support;
- THC's desire to utilize (salvage in place) the existing wood stairs, noted as a significant "historic" element.
- New foundation and structural steel frame inside existing load bearing masonry walls, which provides for 3 levels of structure and a roof
- Structural steel columns to be erected from the ground level up, per each floor level in order to allow existing wood floor and framing substrate to remain in place.
- temporary flooring protection included;
- existing center columns to be removed;
- adding 2x16 Laminated Veneer Lumber (LVL) joists for "sister joist" system at 16" O.C. on all existing 2nd, 3rd floor and roof joists;
- HVAC - Variable Refrigerant Flow System included for all floors;
- Passenger elevator – 3500 lb Gen2 MRL Traction Elevator;
- Bond Issuance Costs of \$187,000 and AIPP Costs of \$87,000
- **Steps to construct...**
 - ♦ Salvage wood flooring on ground floor
 - ♦ Salvage all material non structural i.e. stairs, windows
 - ♦ Demo and salvage existing storefront
 - ♦ Demo ground floor slab on grade
 - ♦ Demo mezzanine level
 - ♦ Drill piers with low overhead equipment
 - ♦ Install grades beam and pier caps
 - ♦ Pour ground floor slab on grade
 - ♦ Install columns and segmented truss system below existing second floor joist to shore up existing second floor (Install elevator and stair shaft in corresponding bays and demo existing flooring in those areas)
 - ♦ Install LVL sister joist to existing second floor joists
 - ♦ Attach existing exterior wall to new steel girders at 2nd Floor level
 - ♦ Install flooring protection to existing wood floor on second and third floors
 - ♦ Install columns and segmented truss system below existing third floor joists to shore up existing third floor (Install elevator and stair shaft in corresponding bays and demo existing flooring in those areas)
 - ♦ Install LVL sister joist to existing third floor joist
 - ♦ Attach existing exterior wall to new steel girders at 3rd Floor level
 - ♦ Install new roof structure
 - ♦ Once new structure is complete finish out interior space and reinstall salvaged material

Option 2 – Structural Steel w/ Segmented Trusses and LVL Sister Joists inside Existing Masonry Walls.

This includes:

- Gross square footage utilized for estimating purposes – 22,730 s.f. (3 floors at 7110 s.f. each plus 1400 s.f. for mezzanine);
- Assumed finish out for 1st, 2nd and 3rd floors and mezzanine;
- no roof level glass enclosure (however foundations capable for roof level occupancy in the future)
- Assumed construction duration of 16 months (3 months for select demolition, pier foundations and slab on grade; 6 months for structural components; 7 months for rough/final finishes and building commissioning)
- Restrooms – 2 per floor (Floors 1, 2 & 3)

Option 2a – Structural Steel w/ Segmented Trusses and LVL Sister Joists inside Existing Masonry Walls.

This includes:

- Gross square footage utilized for estimating purposes - 22,730 s.f. (3 floors at 7110 s.f. each plus 1400 s.f. for mezzanine);
- no roof level glass enclosure (however foundations capable for roof level occupancy in the future)
- demo and rebuild mezzanine;
- foundations capable for roof level occupancy in the future
- total finish out for 1st floor only (drywalled ceiling and perimeter walls on mezzanine, 2nd and 3rd floor) ;
- Assumed construction duration of 12 months (3 months for select demolition, pier foundations and slab on grade; 4 months for structural components; 5 months for rough/final finishes and building commissioning)
- Restrooms – 2 per floor (Floors 1, 2 & 3)

B. Assumptions

1. Clayton & Little Architects prepared a "Proposed Program Preferred by MAM" (Refer to *Exhibit 8.3 – Proposed Rehabilitation Program Plans – Full Finish-Out*). The scope of work presented in these plans developed by CLA was coordinated with the Texas Historical Commission.
2. It will be essential for the efficiency of the project to have access to a material staging area in the general proximity of the construction site. Leasing of property/area for up to 7 months (until structural components are installed) will be required.

3. Design-Build with Bridging is the recommended project delivery method. It is also recommended that Professional management oversight by a Project Management/Owner's Representative consultant be implemented.
4. DB Team procurement will require preparation of "Bridging" documents by an Architect/Engineer Consultant.
5. Limited site conditions combined with working within the existing structure's walls will require a strategic construction approach by an experienced renovation contractor. Requiring a specialized renovation contractor will result in higher costs.
6. East Façade Work will include: repair/replace missing or damaged brick; 4 new metal doors ; new interior roof drain system;
7. West, North and East Facades: All existing windows will be refurbished and restored
8. West and North Facades: New metal canopy; repair damaged stucco throughout; remove existing "custom stone" veneer; West Façade – New metal canopy.
9. An allowance was added for the fixtures and equipment.
10. Complete removal of existing HVAC Systems was included. Some salvage of materials could be considered.
11. Early demolition phase would include removal of storefront and "custom stone" veneer at the northwest corner of the building for equipment access into the building, allowing for slab on grade removal and preparation for pier and grade beam construction. Removal, salvage and reuse of 1st floor finish material included.
12. Interface between new structural steel frame and existing masonry shell walls will require engineered attachment systems.

C. Constraints and Challenges

1. Existing architectural issues – The building has undergone several major renovations since original construction in the 1860's. There are various architectural issues for the existing structure including, but not limited to: "unknown wall penetrations (Refer to Photos 1, 9 and 10); substantial veneer cracks (Refer to Photos 2-5, and 11); obsolete fire escape on west elevation (Refer to Photos 6 and 7); deteriorated or inoperative windows (Refer to Photos 1, 7, and 8); leaking roof and various indications of moisture penetration into the building envelope (Refer to Photo 18); no heating/ventilation/air conditioning (HVAC) for the upper two floors; no ADA accessibility compliance; no functioning restrooms on each floor; masonry walls are un-insulated; and batt insulation under the roof was not evident.
7. Existing structural issues – As noted in referenced structural engineering reports there are various structural considerations within the renovation approach including: unknown penetrations through the existing walls (Refer to Photos 9 and 10); the

condition of the existing ¾" tie rod (Refer to *Exhibit 3.0 – Structural Engineering Report*, photos); inconsistent existing foundations (Refer to Photos 12, 13 and 14); issues related to working around the existing perimeter walls such as temporary bracing and the permanent engineered attachments to the new structural frame. The integration of a new structural frame within the existing walls is also a major challenge. We also understand that in December 2004, the building experienced damage from wind and rain storms which included damage to half of the roof parapet walls and the existing built-up roof. During this event, there was significant rain penetration through the roof and all floors, ultimately reaching the first floor gallery. After this event the entire roof was replaced, but no other extensive investigations or repairs to other floors/wood framing was conducted/completed.

2. Existing MEP issues – The existing mechanical system only services the first floor and mezzanine. The existing electrical system will require a service upgrade. The existing plumbing system fixtures and system are insufficient to comply with intended facility usage as well as current codes. Existing freight elevator does not comply to current codes.
3. The historic component – CLA has provided THC Coordination and developed plans for THC's general concurrence. For Option 2 the targeted components of work in the rehabilitation options include:
 - ♦ Restoring the building's exterior façade: repair and stabilize existing stucco, rehabilitated wood windows in current locations, revised 5th Street and Congress Avenue storefront; recreated west awning over main entrance, recreated blade sign (Refer to *Exhibit 8.2 Proposed Rehabilitation Program Plans and Elevations – Option 2a*).
 - ♦ Rehabilitating the interior main spaces: provide additional structure to existing wood floor framing to meet current building code for proposed new occupancy loads; remove (and reinstall later) ground floor level wood flooring; keep, protect and refinish existing wood flooring at other levels; restore historic wood stair from floor level 1 to floor level 2; maintain sense of original large commercial volume of space at level 1 and as possible at other levels (Refer to *Exhibit 8.2 Proposed Rehabilitation Program Plans and Elevations – Option 2a*).
4. Master plan/zoning issues – Due to the existing site being located within the Congress Avenue Historic District, Historic Landmark Commission review will be required before a demolition permit or a building permit will be issued. This will be true even if the activities were to be limited to interior demolition and exterior and interior rehabilitation. Coordination with the City's Historic Preservation Office, who provides guidance and assistance on this review process, will be required.
5. Building Code/permitting issues – During previous assessments and confirmed during this analysis effort, various code deficiencies have been identified including: structural frame load capacities, exit stairs, inadequate plumbing fixtures, and

obsolete electrical service. Clayton & Little Architects has provided *Exhibit 7.0 Building Code Summary for Rehabilitation* and *Exhibit 7.1 COA/CLA meeting Memorandum 5-27-11* which was prepared with input from Stuart Hersh, Mexic-Arte Facilities Committee Chair, Ron Menard, City of Austin and David Deming, a State of Texas Registered Accessibility Specialist. These documents outline the requirement for rehabilitation.

D. Advantages and Disadvantages

Advantages	Disadvantages
Reuse of existing exterior walls and use of segmented truss system which enables the reuse of existing floor framing which is desired by THC	The integrity of the existing perimeter walls is unknown. If existing walls are left in place while installing new foundations, extreme caution will be required during drilling and/or excavating the new foundation units. If over-excavation or sloughing of soils adjacent to/below the existing wall footings is observed, the excavation efforts could undermine the existing wall footing and result in a loss of foundation support.
THC concurrence of Option 2 and 2a would facilitate the Historical Tax Credit goal	The least predictable cost scheme in terms of renovation/rehabilitation. The projected costs and schedule durations can be exceeded due to unknown and/or unforeseen conditions
Easier to obtain permitting (to rehabilitate)	Building is currently not "historic". To meet the eligibility requirements for the Historic Tax Credits, the period of significance for the Congress Avenue Historic District would need to be expanded. This process could be extended or fought by others
Allows for the potential of a roof level conference room and assembly space	Renovated building spaces would limit ultimate programming
	Conceptual budget estimate exceeds the maximum \$6.5 million budget criteria

E. Schedule

It was estimated the construction duration for Options 2, and 2a varied from 15 to 12 months, respectively (Refer to *Exhibit 6.0 – Conceptual Budgets Summary*). The proposed schedules for Option 2a were developed for Design-Build as well as Construction Manager at Risk project delivery and are attached as *Exhibit 4.0 - Schedules*.

F. Opinion of Probable Cost

After further coordination with the THC, CLA advised the scope of work for Options 1, 1a and 1b was not desired by the THC because it significantly changed the character of the existing building's interior space and would not meet the criteria for the Historical Tax Credit. Based on this information, Options 2 and 2a were developed and priced. (Refer to *Exhibit 8.2 Proposed Rehabilitation Program Plans and Elevations – Option 2a*) The conceptual budgets for Options 2 and 2a were \$8.1 million and \$6.8 million, respectively. Option 2a fulfills the MAM's conceptual budget criteria of a maximum of \$6.5M if less than 15% contingency is accepted. The Conceptual Budget estimate and short summary of some scope features included in Options 2 and 2a are shown in *Exhibit 6.0 – Conceptual Budget Summary*.

G. Risk Analysis

There are numerous activities with inherent process risks since they involve review and approvals by entities other than MAM. For example, permitting durations are unknown and will be heavily dependent upon the scope of work – i.e. renovation vs. new construction. Overall durations of each milestone deliverable review process are unknown and also dependent on the scope of work – i.e. renovation vs. new construction.

Other processes with unknown degrees of risks include: the revision to the Congress Avenue Historic District's period of significance in order to be eligible for the 20% Historic Tax Credit; the development of A/E and/or Contractor procurement processes outside of the City's standard processes, and the required Historic Landmark Commission Review.

There are numerous schedule risks. Reviewing the preliminary Design-Build and Construction Manager at Risk schedules (Refer to *Exhibit 4.0 - Schedules*) presented in calendar day format include some tight and aggressive activity durations. While the specific durations required for the permitting process such as Landmark commission review were not delineated in either schedule, they were assumed to be included in the overall design phase durations. Per the COA Bond Agreement, if the City is paying for Architect/Engineer Services, procurement must be made "using the City's procurement

documents". Based on previous information provided by the City of Austin, their estimates for procuring professional services are 5-6 months and 5-6 months for procuring contractor services.

There are numerous cost risks. Rehabilitation/renovation work is more expensive because of the degree of unknown conditions. In the case of the rehabilitation of MAM's existing facility, those budget risks are higher, given the condition of the existing facility as well as the fact the scope of work would be completed within the existing load bearing masonry walls.

Section 5. Option Number 3 – New construction *CRITERIA*

A. Description

Option 3 – gross square footage for estimating purposes 22730 s.f.; demo entire existing 3 story structure and rebuild 3 story (with mezzanine) structure with foundations capable for roof level occupancy in the future. This would include new structural steel frame, which provides for 3 levels of structure and a roof.

- Gross square footage utilized for estimating purposes – 22,730 s.f. (3 floors at 7110 s.f each);
- Assumed total finish out for 1st and 2nd floor (dry walled perimeter walls on 3rd floor);
- Assumed construction duration of 12 months (4 months for demolition, pier foundations and slab on grade; 3 months for structural components; 5 months for rough/final finishes and building commissioning)
- Pier foundation assumption: 30" diameter to average depth of 25', capable for roof level occupancy in the future
- Passenger elevator – 3500 lb Gen2 MRL Traction Elevator
- HVAC – Variable Refrigerant Flow System included
- Restrooms – 2 per floor (Floors 1, 2 and 3)
- Steps to construct...
 - ♦ Salvage material to be used in new construction
 - ♦ Demo entire building
 - ♦ Reconstruct new building incorporating salvaged materials.
 - ♦ Once new structure is completed finish out interior space

B. Assumptions

Conceptual Scope of Work - Although the preliminary focus of the CLA programming efforts was based on the rehabilitation of the building, the resulting program was also used to develop the corresponding "remove existing building and replace with new construction" option. The following assumptions were associated with Option 3 – All New Construction:

1. Design-Build with Bridging or Construction Manager at Risk is the recommended project delivery method. It is also recommended that Professional management oversight by a Project Management/Owner's Representative consultant be implemented.
2. DB Team procurement will require preparation of "Bridging" documents by an Architect/Engineer Consultant.
3. New brick masonry veneer and windows on West, North and East Facades.
4. Allowanced were added for fixtures, equipment and material where specific items could not truly be defined.

5. Removal, salvage and reuse of existing floor finish material and other select materials.

C. Constraints and Challenges

1. Existing architectural issues – with all new construction, the existing conditions of the current facility are irrelevant.
2. Existing structural issues – with all new construction, the existing conditions of the current facility are irrelevant.
3. Existing MEP issues – with all new construction, the existing conditions of the current facility are irrelevant.
4. The historic component – with new construction the rehabilitation of the existing facility, is no longer an option, and therefore would not meet the requirements necessary for obtaining the Historic Tax Credits.
5. Master plan/zoning issues – Due to the existing site being located within the Congress Avenue Historic District, Historic Landmark Commission review will be required before a demolition permit or a building permit will be issued. This will be true even if the activities were to be limited to interior demolition and exterior and interior rehabilitation. Coordination with the City's Historic Preservation Office, who provides guidance and assistance on this review process, will be required.
6. Building code/permitting issues – Refer to *Exhibit 7.2- Building Code Summary for New Construction*

H. Advantages and Disadvantages

Advantages	Disadvantages
Provides the opportunity for achieving the longest building life cycle and lowest building maintenance costs	Permitting process may be extended in order to secure a demolition permit
Provides the most predictable cost scheme	All new construction may be perceived as not being environmentally friendly.
Provides better opportunity for achieving museum certification	Limited time for design of a completely new facility
Provides better opportunity for improving the cultural aesthetics in line with MAM's mission	
The conceptual budget estimate (with contingency) for Option 3 meets the maximum \$6.5 million budget criteria	

D. Schedule

The estimated construction duration for Option 3 was 12 months.

E. Opinion of Probable Cost

Based on this approach, Option 3 has a conceptual budget of **approximately \$6.5 million**, with approximately \$350,000 in contingency. The Conceptual Budget estimate and short summary of some of the scope features included in Option 3 is shown in *Exhibit 6.0 – Conceptual Budget Summary*.

F. Risk Analysis

There are numerous activities with inherent process risks since they involve review and approvals by entities other than MAM. For example, permitting durations are unknown and will be heavily dependent upon the scope of work – i.e. renovation vs. new construction. Overall durations of each milestone deliverable review process are unknown and also dependent on the scope of work – i.e. renovation vs. new construction.

There are numerous schedule risks. The preliminary Design-Build and Construction Manager at Risk schedules (Refer to *Exhibit 4.0 Schedules*) presented in calendar day format include some tight and aggressive activity durations. While the specific durations required for the permitting process such as Landmark commission review were not delineated in either schedule, they were assumed to be included in the overall design phase durations. Per the COA Bond Agreement, if the City is paying for Architect/Engineer Services, procurement must be made “using the City’s procurement documents”. Based on previous information provided by the City of Austin, their estimates for procuring professional services are 5-6 months and 5-6 months for procuring contractor services.

Cost risks with this option would include extended processes that would lengthen the overall project duration and potentially increase Architect / Engineer costs.

EXHIBIT 1.0

Existing Documents Listing and Synopses

Building Survey and Feasibility Analysis
for
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Document List and Synopses

Doc No.	Report Date	Report Name/Sections	Prepared By	General Information	Structural	Architectural
1	1985	Technical Report - Barker Furniture Building	The Nyfeler Organization Inc.	12/1/85 Report purpose was to provide information on the extent of remaining original 1869 Building Construction, and in particular construction above the 3rd level. references Attachments A, B, C, &D	exent of original vs later construction is quantified;	original north wall has been partly demolished and store front windows installed; throughout the building original double hung windows have been replaced by light single hung windows; reports from construction project manager in the 1930's remodel confirm that all interior frame, framing and second third floor and roof structure were removed and rebuilt; original awnings no longer exist
1a	1986	Exploratory Investigation Report--Barker Furniture Building (6/12/86)	The Nyfeler Organization Inc.	June 12, 1986 Letter supplements Dec 1, 1985 Report -	exploratory demolition - 2nd level; structural failure in the south masonry wall near SW corner..crack from 1st FL level to 2nd FL ceiling level; exent of original vs later construction is quantified;	
2	6/17/1999	Appraisal of the MAM Property w/ Appendices A, A.1- A.7	Various	Utilized information by CC&S Architects with respect to condition of the building, renovation costs and cost new; The lot size is 46' x 160' and is located in the Central Business District (CBD) Downtown Neighborhood. The lot is zoned CBD with two overlays – CA (Congress Avenue Historic District) and CVC – Capitol View Corridor; Built in 1860's, TCAD shows 1910; It is reasonably probable that the Historic Landmark Commission would recommend "CBD-H" (historic) zoning, if a request for renovation or demolition were submitted. Since property is within Congress Avenue's Historic District, it is unlikely it can be demolished or any stories added; Overall condition is poor, requiring complete renovation with new roof, elevator, mechanical, electrical; Remaining Life: Shell has indefinite life with proper repair and maintenance; Highest and Best Use - Renovation for multi-tenant office/retail use, preserving the existing shell	Roof in poor condition, new roof required; steel (and wood) beams and columns with wood floor joists spanning approx. 23 ft; foundation is concrete slab under wood floor and sleepers; West Wall - obsolete fire escape needs to be replaced with new interior exit stair and brick is badly weathered and needs mortar repointing; Existing Freight Elevator - operates and is well located in the building for vehicular access from the alley and to serve upper floors;	Property consists of 7360 S.F. with 3 story office/retail building with mezzanine and approximately 24,648 S.F. gross measured building area; estimated 15% of rentable area will be lost in the renovation process as stairwells, elevator and other vertical penetrations are installed; After renovation, rentable area is estimated at approximately 21,000 S.F.; plastered brick, "thin brick" on N and W walls, weathered brick on E wall; new roof required; entry storefront doors on Congress and one wood door on 5th St; Ceilings - some 1920-30s lay-in acoustical and composition board is in poor condition; existing bathrooms on 1st FL not accessible - other bathrooms appear to be abandoned and inoperable; electrical is obsolete and inadequately sized; HVAC - 1st FL HVAC was installed in 1998 - none on 2nd or 3rd FL; Floors - hardwood floors in good condition; no interior load bearing walls; lighting and wiring should be replaced throughout the building; electrical system-increased service size and new wiring, conduit, electrical devices, panels and switchgear are needed as part of renovation;
2A	6/15/1999	Appendix A – Condition Report w/ Appendices A.1 – A.6 (6/15/99)	Coffee Crier & Schenck Architects	Includes: Improvement Analysis, Estimate of Probable Construction Cost for "Like New" (Total GSF 24,648 at \$2.4M or \$100/S.F.) and Estimate of Probable Restoration Cost (Total \$2.0M)	Code deficiencies in structural frame, loading capacity, exit stairs, accessibility and plumbing fixtures; Foundation reinforcement is anticipated as part of any building remodeling; Added footings as part of any structural frame reinforcement based on 1994 reports by Jerry Garcia - See Appendix 3; a bulge developed in the north wall in 1986 and has been addressed with the installation of through-the-building tie rods. The exterior appearance of the building has not changed since the 1930s. If the building is "landmarked", it will be required to maintain that appearance or be retored to any earlier period. The plaster may be protecting damaged brick.	No heating or airconditioning for top two floors, obsolete electrical and inadequate and obsolete plumbing
2A.1	5/5/1999	Appendix A.1 – Area Calculations 413-419 Congress Avenue	Dimensions Floor Plans	Frontage approximately 46' on Congress Avenue and 160' on East 5th Street; Ground FL at 7119 S.F. Gross, Mezzanine at 3425 S.F. Gross, 2nd FL at 7023 S.F. Gross, 3rd FL at 7079 S.F. Gross		

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2A.2	4/27/1999	Appendix A.2 – Renovation Cost Estimates	Herndon, Stauch & Associates	Estimate was based on rough sketches and does not include cost of remodel of the mezzanine; may be low on the interior finish costs since we assumed a minimal amount of \$10 per S.F. for new interior walls and finishes; GSF 22,080 with Estimated hard costs \$1.5M or \$66/s.f. with building unoccupied during renovation work; estimated Total Project Costs of \$2.1M		
2A.3	1/11/1994	Appendix A.3 – Structural Evaluation Letters	Structures (Jerry Garcia)	1-11-94 and 3-11-94 reports provided an evaluation of existing conditions	1-11-94 report determined the structural capacity of the mezzanine (approx allowable total load of 25 p.s.f.-17 psf live) and second floor systems (approx allowable total load of 85 p.s.f.-57 psf live) and in isolated areas – the structure was exposed to find existing framing elements; 3-4-99 report provided an evaluation of existing conditions to determine the structural capacity of the third level (approx allowable total load is 45 p.s.f. and allowable live load is 30); NOTE: Neither report provided evaluation of foundation elements;	
2A.4	5/4/1999	Appendix A.4 – Comprehensive Asbestos Survey and Environmental Site Assessment 413,415,417,&419 Congress	HBC Engineering	Asbestos Survey Report 05/04/99 and ESA Report 6/11/99	found 2nd floor mechanical room contained ACM in pipe insulation	
2A.5	12/1/1985	Appendix A.5 – Technical Report	Nyfelor Organization Inc., Architecture and Allied Services	See Doc 1A Details		
2A.6	3/25/1986	Appendix A.6 – Inspection Report	George Maxwell Engineers, Inc.	visual inspection was made of the improvements	three story with load bearing brick and stone masonry exterior walls with a line of columns..running east west..wide flange steel columns on the 1st and 2nd FL and wood columns on 3rd FL. ; north and south walls (front and back) are load bearing and both walls are bowed to the north approx 2 in at the 2nd FL and approx 1 in at the 3rd FL- max bow 40 ft east from front; the north wall from 3rd FL to roof appears to lean N approx 1 in, but the S wall leans N approx 2 in from 3rd FL to Roof; large vertical cracks in North wall above the store front - cracks do not translate to the inside surface of the wall indicating that the cracks are due to the bending of the wall causing tension on teh outside and compression on the inside of the wall; the 2nd through 7th interior columns (west to east) lean to the north approx 1 in giving further evidence that the building was not built out of plumb but that the movement has been progressive and since there are no lateral (N-S) interior walls or floor diaphragms... there are no substantial structural element to prevent further movement. From observations – it appears ...structure is being racked to the north...as load bearing walls and columns lean more...in this direction, the eccentric loads imposed on them may cause them to fail..recommendation.... that the building be either condemned and demolished or strengthened to preclude a possible catastrophic structure failure.	
Doc from SLS	3/18/1988	Inspection Report by George Maxwell Engineers	George Maxwell Engineers, Inc.	Follow-up to 3/25/1986 report;	...the minimum corrective work that will be necessary before building would be considered structurally safe to occupy is as follows: 1. Installation of a 3/4-inch tie rod with turn buckle in the first floor ceiling space at the second interior column (approx 40 ft. from front of building) and extending from the outside of north through this wall and through the south wall of the building with 12"x12"x3/8" bearing plate at each end. Purpose of this rod is to preclude any further movement in the north wall (not to straighten the wall) 2a) Reinforce the wall supporting the anchors for the front canopy by installing 3"x3"x1/4" steel tube columns floor to floor behind each anchor and attaching anchors to these columns, or 2b) remove canopy; exterior to the south load bearing wall...that extends above roof of the two story adjacent building (to the south) is out of plumb, and since the north load bearing wall is plumb and straight at this level, it appears that the exterior of this wall was built out of plumb (wall was built 2-inches thicker at the bottom). The masonry in this wall is badly weathered and exposed to further water/freezing damage. While this is not considered an immediate concern, this wall should be waterproofed with "Thorocoat" or an approved equal to preclude further deterioration.	
3	Dec-99	Republic Square 1999 Recommendations	Republic Square Task Force	Create a walking tour from Republic Square to MAM by establishing a series of cultural and historical markers along the 5th street corridor		

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Doc No.	Report Date	Report Name/Sections	Prepared By	General Information	Structural	Architectural
4	3/1/2000	Feasibility Study w/ Appendices I-VIII (3/1/2000)	Carter Design Associates	purpose of study to investigate the feasibility of purchasing and renovating existing historic building at 419 Congress Avenue. The study evaluates the level of building restoration possible and determines a budget and scope for the project based on this vision.	LIFE SAFETY/BUILDING CODE - According to 1994 Uniform Building Code..MAM fall into Type B occupancy, museum galleries (exhibit) and Museum café (dining) fall into A2.1 occupancy....the assembly occupancy is not allowed above a 2nd story in a wood frame construction....existing freight elevator not recommended for upgrade...a new handicap accessible passenger elevator will be required...building code requires fire exits from upper levels utilize only stairs enclosed in fire rated construction.... ME&P SYTEMS: large amount of space must be allocated for systems that provide for the variety of functions, humidity and temperature control, kitchen equipment, and code requirements...a small portion of sq ft needed for the MEP systems can be offset by locating some equipment on the roof; sprinkler systems will require a riser...city will require an electric vault that opens to the exterior... assembly requires large number of toilet fixtures... STRUCTURE: ...existing structure cannot accomodate the large loads imposed by code determined occupancy... existing roof structure will not allow additional rooftop equipment...building structure can be supplemented with steel to increase its load bearing capacity, but gallery and cafe space will be limited to 1st and 2nd FL due to the materials in its construction. Therefore, replacing the entire existing structure with a new one of steel was evaluated....rebuilding the Museum from inside out, while leaving the stuccoed brick exterior altogether, initially appeared costly when evaluated... the staging and complexity of the demolition and construction inside the existing shell will have cost and time implications....managing the interior construction as well as shoring of the north facade along 5th street will be the challenges.....New footings and possibly piers will be required at the interior columns.....The new columns can be used to tie back the bowed masonry shell at both the north wall and the south party wall.	
4.1			various	Appendix I – Team Members		
4.2			misc	Appendix II – Listing of past owners and uses for building		
4.3	7/14/1999		Law Engineering	Appendix III – Law Engineering Report (7-14-99)	services ...for a preliminary materials assessment for the feasibility of removing exterior wall plaster from the Congress Avenue (western) side and the Fifth Street (northern) side of..building; present structure of the building is brick walls faced with plaster on the western and northern exposures. The exterior walls on the alley side (eastern) and the southern side of the third story are brick construction without plaster.....evaluate restoration of the original brick exterior by removing the plaster on the exterior walls.....made a brief visual survey of the interior and exterior of the building...the exterior walls consist of a low-fired..brick.."Austin Common"..has a relatively soft interior with a somewhat harder protective skin....exterior of the brick wall is coated with a hard cement plaster on the Congress Avenue (western) side and on the 5th St (northern) side of the structure...exterior plaster was probed and sounded using a hammer along the 5th St side at street level and along the parapet wall.....extensive open cracking was not observed....Generally the plaster appeared to be partially delaminated in the vicinity of the cracking, but the areas not associated with cracking appeared not to be delaminated. The plaster areas probed with hand tool appeared to be well adhered to the brick substrate. The mortar appeared to be a lime based and was soft and friable;opinion that the removal of the plaster interior would likely damage the brick surface and result in accelerated deterioration. Removal of the well-adhered exterior plaster will require aggressive removal methods that will damage the protective outer skin of the bricks. Once exposed the softer core of the brick will erode rapidly.....we also anticipate extensive reconstruction of key features such as window locations and brick detailing.	
4.4	8/18/1999		Otis	Appendix IV – Otis Elevator Letter (8-18-99)	..recommendation to replace the existing traction freight elevator with a new roped hydraulic elevator. Because the elevator (existing) has not been maintained, it would not be safe for continued use without undertaking a series of extensive and costly repairs. Even then, there would be additional expenses associated with upgrading the elevator to meet current code standards; for approximately \$60,000, elevator could be completely replaced with a new Otis LVM 2100ER roped hydraulic elevator that would meet all current code and safety standards.	

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Doc No.	Report Date	Report Name/Sections	Prepared By	General Information	Structural	Architectural
4.5	12/20/1999		TG&C	Appendix V – Tom Green & Company Report (12-20-99) Preliminary MEP Estimates: Mech \$625,000 +/- 30%, Elect \$425,000 +/- 30%	<p>facility will have several areas with different usage with each usage presenting a different set of problems for the mechanical systems.....existing system consists of a Lennox split system with the condensing unit on the roof that serves the first and mezzanine floors.....heating is provided by a gas fired duct heater..this system will be removed due to its age and poor condition; PROPOSED MECHANICAL SYSTEM: provide one or two air cooled chillers (depending on the final cooling loads and the equipment selected) mounted on the roof....chilled water would be piped to a penthouse type air handler on the roof.... supplying a low pressure duct system that would serve VAV boxes located to serve different usage areas..... a gas-fired boiler would provide heating with hot water being piped to the VAV boxes.....The heating boiler would likely be located in the penthouse mechanical room..... chilled and heating water pumps - room must be provided in the penthouse mechanical room.....kitchen exhaust hood - if a full service kitchen is provided provision will need to be made for a grease type kitchen hood.....need to be located so that a fire rated chase from the 1st FL up through the roof would be needed.....Electrical System - a new 1600 Amp, 120/208 Volt, 3 phase, 4 wire electric service will be required to serve the new/renovated loads.....utility company requires services ..served from a tranformer vault constructed on the customers property....new panels and feeders will be provided.....new outlet/device boxes.....new lighting fixtures.....emergency lighting....new fire alarm system.....removal and installation of new plumbing systems..... grease trap will be required if any food services is provided.....Sanitary Service - documentation available indicates that there is an existing 4" sanitary tap in the alley behind the building....a new tap may be required.....Domestic Water Service - existing water meter is a 1/2" meter...load renovations will require a 2".....Fire Protection Service-1997 UBC appears to require an automatic fire protection system for this type occupancy..also requires a Class II Standpipe system for the exhibit area. This will require the extension of a 6" fire line to the building. The only fire line available in Congress Avenue.....An 8" fireline has been run to approx 413 Congress....fire entrance will have to moved to the front of the building....otherwise a line would need to be extended to and provided in the alley....anticipated that natural gas would be used for space heating, domestic hot water and kitchen equipment...existing 1-1/2 gas line serves the building but is located in the front of the building... anticipated that a larger gas meter would be required.....storm drainage from the roof would need to be provided</p>	
4.6	7/22/1999		SLS	Appendix VI – Steinman Luevano Structures Rpt (7-22-99 & 12-1-99)	<p>....observe the condition of the existing structure and how the desired program can be accomodated structurally.....items that can be done to increase the carrying capacity of the structure.....adding extra beams between the columns that run east-west.....a line of W16x31 beams would increase the load carrying capacity of the interior by 100 psf... second item ...to increase the capacity of the floor joists..by adding addiitonal floor framing members adjacent to the existing floor joists.....member ...would be a 1 3/4" x 11 1/4" microlam joist added to each existing floor joist...the steel columns..adequate to support the added loads as they are now.....a second way to increase the load carrying capacity of the building would be to gut the entire structure and reframe....this would be a major undertaking and would be much more expensive than case 1.....to gut the buildingthe north wall would have to be shored in place while the interior of the building is gutted and reframed....this would entail shoring on the 5th street sidewalk.....interior framing would be fairly easy to design but construction within the shell of the building would be difficult.....cost of two options is difficult....new footings to accomodate new columns would range in size but generally ..4'x4"x2"deep...anticipate needing up to 6 new footings for the columns.....likely that the entire first floor would need to be reframed</p>	

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Doc No.	Report Date	Report Name/Sections	Prepared By	General Information	Structural	Architectural
4.7	1/3/2000		Barr Co.	Appendix VII – Barr Company Report	Report addresses many issues that affect the construction estimate including: additional 4th floor; assembly requirements; radical selective demolition requirements with entirely new structural system; routing of new utilities as needed; right of way impacts (sidewalk, street, alley); fencing and temporary sidewalk provisions; night work requirements for some utility work; criticality of a nearby material staging; strategic phasing plan to optimize construction duration; early package identification such as demolition; code requirements will require significant coordination; possible equipment salvaging; duration of displacement of the museum operations to an alternate location; strategic shoring requirements; foundation requirements such as new footings or piers – necessary equipment access; new column system-construction and phased demolition; need for expert restoration consultant for detailing required to successfully regenerate or add new facades; strategic placement of crane during steel erection; shuttling materials between staging site and construction site; detailing of the attachment system between existing shell and new structural system; salvaging of existing floor framing wood materials; restoration or recreation of existing doors and windows; final finish selection; MEP systems budgeting and contingencies;	
5	6/4/2002	Letter to Terry Ortiz 6/04/02	Aguirre Corporation (John Nyfeler)	Letter noted John Nyfeler would be a part of the committee to present to Historic Landmark Commission on June 17, 2002; report also references previous findings from 1985 Report - See Doc 1 and 1a	current 3 story building was originally 4 stories; current window locations were cut into original masonry walls - original windows have been bricked up; less than 10% of the (original) exterior walls still remain; original Congress Avenue first level facade has been completely removed and replaced with aluminum and glass storefront; original brick detailing has been completely removed and covered with stucco; currently existing exterior motif was added at a more recent date; original building had a covered arcade over teh sidewalk on west and north sides; location of ground floor doors on 5th street have been changed from original locations	based on findings...presented in 1985, the Historic Landmark Commission determined that the building could not meet criteria for being designated historic
6	2002	Building Images and Historical Information	Various	Summary information includes History of the Building at 419 Congress as well as History of Mexic-Arte Museum;		
7	11/1/2004	Final Report – Strategic Outlook and Building Program Study (11/1/04)	M. Goodwin Associates, Inc.	Strategic outlook and building space program study for construction of a new museum facility on the currently occupied Congress Avenue and 5th Street site. New facility options included: Practical Option Single Site - 5 stories (80' height) and a basement plus interim facility somewhere- Total GSF 44,400, Est. Total Project Costs of \$24.2M or \$545/s.f. Hybrid Option Two Sites - 4 stories (70' height) and a basement plus interim facility at Phillips Building – Total GSF 50,600 Est. Total Project Costs of \$27.5M or \$544/s.f.		
8	2004	Bldg Roof Repair 2004	Various	pictures of roof damage only	no report found or provided regarding the extent of roof repairs or amount of area repaired	

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Doc No.	Report Date	Report Name/Sections	Prepared By	General Information	Structural	Architectural
9	5/23/2010	MAM - Preservation Needs Assessment - 2011	Sue Murphy	report is noted as DRAFT presents recommendations for ...specifications for upcoming construction projects and notes:	costs to renovate to accommodate the specifications necessary to house and exhibit collections safely could well far exceed the cost of rebuilding completely on the site; Retrofitting existing facilities to meet conservation standards for storage and display of collections is expensive and sometimes not feasible; ..have a structural engineer evaluate existing structure;...existing building is wood framed. Even with new HVAC systems it will be difficult to achieve the environmental storage specifications noted...without created isolated micro-environments. This will likely be more expensive than new construction....Fire Detection and Suppression – the wet pipe system is the best, a cross zoned, dry pipe, preaction system; ...remaining report addresses four primary topics of concern for the construction of a new facility – 1) HVAC and Building Design 2) Temperature, RH and Air Quality, 3) Lighting and 4) Prohibited Construction Materials and Products – providing recommendations, guidelines, and specifications in each area.	

EXHIBIT 2.0

Geotechnical Consulting Report



May 20, 2011

H.R. Gray
7320 North Mopac Expressway, Suite 308
Austin, Texas 78731

Attn: Mr. Alex Gonzales, P.E., LEED AP
P: 512.340.0680
F: 512.340.0688
M: 512.569.0011
E: agonzales@hrgray.com

Re: Geotechnical Consulting Services
Mexic-Arte Museum Renovation Feasibility Study
419 Congress Avenue
Austin, Texas 78701
Terracon Project No. 96115057, Revision 1

Dear Mr. Gonzales:

Terracon is pleased to submit our Geotechnical Feasibility Study letter report with respect to the proposed renovation/reconstruction at the Mexic-Arte Museum in downtown Austin, Texas. This project was authorized by Mr. Scott Swiderski of H.R. Gray on April 21, 2011 through signature of our "Agreement for Services". The project scope was performed in general accordance with Terracon Proposal No. P96110385, Revision 1 dated April 19, 2011.

Project Background

This project is located at the existing Mexic-Arte Museum (MAM) at 419 Congress Avenue in Austin, Texas. The existing building is a three-story above-grade structure (with a footprint of about 7,112 square feet) originally constructed in the 1860's through 1880's that has had multiple renovations since that time. The current option being considered is to retain all four existing walls, provide for potential reuse of the existing wood floor framing systems, remove the existing slab-on-grade to allow for construction of new foundations required for the new structural frame, and provide engineered attachments between the existing walls and the new structural frame.

There have been multiple discussions about the framing options for the reconstructed building, of which the latest scenario involves combination steel and wood. The latest plan involves a new three-story structure, with a mezzanine level between the first and second floors and a roof capable of functioning as an open-air reception level. Estimated maximum column loads are on the order of about 270 to 300 kips.

Terracon Consultants, Inc. 5307 Industrial Oaks Boulevard, Ste. 160 Austin, TX 78735 Registration No. F-3272

P [512] 442 1122 F [512] 442 1181 terracon.com

Geotechnical ■ Environmental ■ Construction Materials ■ Facilities

The MAM is immediately to the north of the Frost Bank, which was constructed in the early 2000's. The Client and the Architect (Clayton & Little) attempted to obtain a copy of that geotechnical report for our review. The full report was unavailable; however, the Plan of Borings and eight Logs of Boring were provided to us for review.

The Client hired a contractor to remove the existing slab-on-grade and excavate three areas adjacent to the inside edge of the existing load-bearing walls such that Terracon, the Structural Engineer (Steinman-Luevano Structures, LLP), and the Architect (Clayton & Little) could observe the existing conditions of foundations under the walls.

Based on the above information, Terracon has been requested to provide this letter regarding the geotechnical feasibility of the planned improvements. This feasibility-phase service should be considered the first phase in our geotechnical services, as additional field work (such as interior and/or exterior borings), laboratory testing, and engineering recommendations for use in design and construction will be needed in the future.

Discussion of Borings from Frost Bank

Eight logs of boring from the adjacent Frost Bank building were provided to us for review. The borings were conducted between August 5, 2000 and June 11, 2001 by Fugro Consultants, Inc. The subsurface conditions generally consisted of about 14 to 20 feet of Lower Colorado River terrace deposits ranging in classifications from lean clay (CL) to clayey sand (SC) to poorly graded sand (SP) to poorly graded gravel (GP), with some of the near-surface material categorized as fill soils. These terrace deposit soils were immediately underlain by tan to gray Austin Group limestone extending to depths of about 47 to 63.5 feet. Under the Austin Group limestone, dark gray Eagle Ford Formation shale was encountered extending to the termination depths (65 to 80 feet) of the borings.

Groundwater seepage was observed in the dry augered portions of two of the eight borings at depths of about 15 to 17 feet near the interface between the alluvial soils and the underlying Austin Group limestone. Once rock was encountered, the drilling operations switched to wet rotary coring and groundwater was no longer able to be measured below those depths. The Frost Bank Plan of Borings indicates seven groundwater monitoring wells, but information from those monitoring wells was not provided to us.

The three closest borings to Mexic-Arte Museum are summarized in the table below. Depths and elevations were obtained from the Frost Bank Logs of Boring.

Frost Bank Boring #	Approximate Depth Range, feet (with corresponding elevations)			Depth of Groundwater Seepage, feet (with corresponding elevations)
	Terrace Deposit Soils	Austin Group Limestone	Eagle Ford Shale	
B-2	0 – 20 (504 – 484)	20 – 47.2 (484 – 456.8)	47.2 – 80 (456.8 – 424)	None above 12 feet
B-3	0 – 17.7 (503 – 485.3)	17.7 – 56.5 (485.3 – 446.5)	56.5 – 80 (446.5 – 423)	None above 23 feet
B-5	0 – 18.2 (503 – 484.8)	18.2 – 50 (484.8 – 453)	50 – 80 (453 – 423)	16.8 (486.2)

Test Pit Observations

As mentioned previously, the Client hired a contractor to excavate three areas around the existing walls to provide an opportunity to observe the existing conditions of foundations under the walls. On April 12, 2011, test pits TP-1 and TP-2 were excavated inside MAM near the southwest and southeast corners of the existing structure, respectively. On April 13, 2011, test pit TP-3 was excavated inside MAM on the north wall behind the main showrooms. All three test pits were excavated by manual labor.

At TP-1 near the southwest corner, we observed a stone or rubble footing appearing to have been dry-stacked without a concrete footing base. The stone rubble extended approximately 14 to 16 inches below the top of the slab, which was approximately 5 inches thick. A small-diameter metallic utility line (about 1½-inch diameter) was present in the area. The excavated soils were generally reddish brown in color and classified as clayey sand with gravel (SC).

At TP-2 near the southeast corner, we observed mortared bricks extending down onto a concrete footing. The top of the concrete footing was approximately 24 to 26 inches below the top of the slab, which was approximately 6 inches thick. The footing extended about 18 inches outward from the edge of the overlying wall. The excavated soils were generally brown in color and classified as clayey sand with gravel (SC).

At TP-3 along the north wall, we observed a stone or rubble footing appearing to have been dry-stacked without a concrete footing base. The stone rubble extended approximately 14 to 16 inches below the top of the slab, which was approximately 4 inches thick. A small-diameter metallic utility line (about 2½-inch diameter) was present about 10 inches from the wall. The excavated soils were generally brown to dark brown in color and classified as clayey sand (SC).

Laboratory test results for the sampled soils are summarized in the following table.

Test Pit #	USCS Classification	Moisture Content, %	Atterberg Limits			Grain Size Analyses (Percent Passing), %		
			Liquid Limit, %	Plastic Limit, %	Plasticity Index	#4	#40	#200
TP-1	Clayey Sand with Gravel (SC)	12	39	16	23	85	73	43
TP-2	Clayey Sand with Gravel (SC)	14	31	16	15	82	51	17
TP-3	Clayey Sand (SC)	11	26	14	12	92	69	35

Conclusions/Comments

Based on the observations made during test pit excavations and our discussions with the rest of the Design Team, it appears the majority of the foundations of the existing building consist of dry-stacked stone or rubble footings, rather than reinforced concrete footings. The Design Team discussed the reported age of the building and reached a consensus that the concrete footing observed in TP-2 (near the southeast corner) represents a very small minority of the existing foundations and was likely part of an expansion sometime during the 1900's. Since the existing foundations rest on the clayey sand soils and the majority of the foundations are rubble without uniform construction, we do not suggest planning to add any additional loads to the existing wall foundations. Instead, it is our opinion that the most feasible foundation for the project would be drilled pier concrete foundations bearing on Austin Group limestone, with an alternative for spread footing concrete foundations bearing on the clayey sand soils.

If the decision is made by the Owner to save all four walls and to leave them in place while installing new foundations, extreme caution will be required while drilling and/or excavating the new foundation units. Specialty limited-access drilling rigs will be needed for pier installation. Excavation equipment should be chosen and operated such that vibrations to the exterior walls to be saved are minimized. If overexcavation or sloughing of soils adjacent to/below the existing wall footings is observed, the excavation efforts could undermine the existing wall footings and result in a loss of foundation support. (At this time, we understand the Client has included an allowance for the use of underpinning adjacent to the existing walls in their preliminary budgeting.) We recommend that the exterior walls to be saved should be surveyed initially prior to construction activities and should be checked daily for signs of movement and/or distress during construction activities. The evaluation of drilling and excavation contractors bidding on the new foundations should include consideration of prior history working around historical and/or movement-sensitive foundations.

Drilled Pier Foundations

Based on our knowledge of subsurface conditions from other Terracon projects in the downtown area and a review of the Frost Bank boring logs, we estimate net allowable end bearing pressures

ranging from about 50,000 to 80,000 psf would be appropriate for drilled straight-sided piers bearing at least 3 to 5 feet into the tan to gray Austin Group limestone. Net allowable side friction values on the order of about 4,000 to 6,000 psf would be appropriate for pier portions penetrating beyond the minimum embedment.

Due to the low to moderately low plasticity and grain size results of the terrace deposit soils, soil-related uplift is not a major concern at this site. For planning purposes, vertical steel reinforcement should be provided for the full depth of the piers, with a minimum shaft steel percentage of ½ percent of the gross shaft area.

As indicated by the Frost Bank boring logs, groundwater seepage is possible at this site. Due to the possibility of groundwater influx and/or sloughing of the terrace deposit soils along the pier sidewalls, it is possible that the use of temporary casing to control groundwater and/or sidewall sloughing during pier construction may be needed. (At this time, we understand that the Client has included an allowance for the use of temporary steel casing in their preliminary budgeting.)

Maximum post-construction total settlements of properly constructed drilled piers bearing in the Austin Group limestone should be about ½ to ¾ inch, assuming proper construction practices are followed and the bearing surfaces are cleaned of loose material. Differential settlements between adjacent piers may approach the total settlement indicated above.

Spread Footing Foundations

Due to concern regarding the installation of drilled piers inside the existing walls, the Design Team has requested options for shallow reinforced concrete footings. Based on the test pit observations, our laboratory testing, and a review of the Frost Bank borings, we anticipate maximum allowable bearing capacities on the order of 2,500 to 3,500 psf for footings bearing in the natural terrace deposit clayey sand soils at depths on the order of 2.5 to 4 feet below existing floor slab.

Based on the estimated column loads, spread footings may become very large and lead to eccentrically placed columns as one of the Owner's desires for the new construction is for large open areas with limited interior columns. As stated above, excavations for new foundations next to the exterior walls to be saved should be performed carefully such that the existing walls are not undermined.

Maximum post-construction total settlements of properly constructed spread footings bearing in the terrace deposit soils should be about 1 inch, assuming proper construction practices are followed. Differential settlements between adjacent footings may approach the total settlement indicated above.

Floor Slabs

In general for grade-supported floor slabs, only minimal earthwork operations are anticipated to establish relatively uniform subgrade conditions. After demolition, utility renovations, and foundation installation, the remaining subgrade should be evaluated for relatively uniform compaction and moisture characteristics. Any fills needed should consist of properly compacted select fill or crushed limestone base soils up to final grades.

Closing

We appreciate the opportunity to work with you on the feasibility portion of this project. If you have any questions concerning this letter, or if we may be of further service, please contact us. We look forward to providing additional geotechnical engineering services in the future as the project progresses.

Sincerely,
Terracon Consultants, Inc.
(TBPE Firm Registration: TX F3272)



Bryan S. Moulin, P.E.
Principal, Geotechnical Services Manager



05/20/2011

EXHIBIT 3.0

Structural Engineering Report

June 8, 2011

Alex Gonzales, P.E.
H.R. Gray
7320 N. Mopac Expressway Suite 308
Austin, TX 78731

**Re: Feasibility Study
Mexic Arte Museum
419 Congress Avenue
Austin, TX 78701**

Job Number: 20113544

Dear Alex:

Steinman Luevano Structures, LLP has performed a Structural Study of the Mexic Arte Museum building, as part of a larger study by H.R. Gray. Our report follows.

PURPOSE AND SCOPE

The purpose of the study was to review available documentation, observe existing conditions, assess the existing capacity of the structural elements, and to evaluate proposed renovation schemes. The scope of our services as included the following:

1. Review of available documentation, including previous assessments.
2. Site visits to observe and document existing condition of the structure.
3. Review the capacities of the existing structural system components.
4. Evaluate the need for limited destructive testing, in particular for the foundation system. Observe the exposed foundation conditions.
5. Evaluate and make recommendations concerning possible renovation schemes.
6. Preparation of a letter report with our analysis and general recommendations.

BACKGROUND INFORMATION

The structure is located at 419 Congress Avenue. Based on information provided to us, the structure was built in the 1860's and renovated several times. The structure is approximately 44 feet wide by 159 long. There are three main floor levels, with a partial mezzanine level between the first (ground) level and the second level (Photos 1 and 2). The building structure generally consists of load bearing masonry perimeter walls, wood floor joist and roof framing, and a combination of wood and steel columns. At the start of the investigation the nature of the perimeter foundation footings and interior column support footings was unknown.

REVIEW OF AVAILABLE DOCUMENTATION

The following is a summary of some of the various reports made available to us:

Inspection Report, March 25, 1986, George Maxwell Engineers, Inc: This reports documents the basic framing members, and notes a bowing of the north and south walls toward the north, columns which lean towards the north, and cracks in the veneer at the storefront modifications. The report maintains the veneer cracks are related to the bowing of the wall.

Inspection Report, March 18, 1988, George Maxwell Engineers, Inc: This follow-up report recommended the installation of a single tie rod just below the second level framing plan, approximately 40 feet from the northwest corner, running the full width of the building.

Structural Evaluation, January 11, 1994 and March 24, 1994, Structures by Jerry Garcia: These reports involved measurement of floor framing members and analysis of floor loading capacities for the mezzanine, second and third levels. The report concluded that based on deflection criteria, the allowable live load capacities of the floor levels were 17 psf mezzanine, 57 psf second level, and 30 psf third level.

SITE OBSERVATIONS

In March and April 2011, I visited the site several times. The following observations were made:

General Observations:

1. Second level framing members consisted of 2x13 joists (measured) at 19 inches on center.
2. The wood floor joists typically framed into the masonry walls. There were straps from the side of the joist to the masonry, presumably for lateral support of the masonry wall (Photos 3 & 4).
3. There was a noticeable bowing in the north wall about 40 feet from the northwest corner. In addition several of the interior columns exhibited out of plumb conditions with the top of the column to the north. I observed the 3/4 inch tie rod running from the north side wall to the south wall, just below the second level framing (Photos 1 & 5).
4. There was cracking in a thin veneer above the storefront. It did not appear to be related to the bowing of the wall, but rather related to the framing modifications done to install the storefront (Photo 6).
5. Many of the floor joists and roof members were notched (Photos 7 & 8).

Foundation Observations: Excavations were made at three locations: southwest corner, southeast corner, and northside wall.

1. At the southeast corner, the concrete slab was roughly 5 inches thick, reinforced with #3 @ 24" on center. There was a concrete footing 2 feet below grade, and 2 feet thick. The inside face of the footing was 1'-6" to the inside of the inside face of the wall above (Photo 9).
2. At the southwest and northside excavations, the concrete slab was roughly 5 inches thick, and the bottom of the masonry wall was 14"-16" below the finish floor. The wall footing was roughly 7 inches wider than the wall, to the inside. There was no concrete footing, simply masonry.

TERRACON CONSULTANTS, INC. REPORT

Terracon Consultants, Inc. prepared a preliminary report dated May 20, 2011. In that report they reviewed test borings for the construction project just south of the Mexic Arte property. Those boring indicated the near surface materials generally consisted of alluvial soils, with Austin Group limestone roughly 18-20 feet below grade. Terracon made preliminary recommendations for pier design into the limestone stratum, and shallow spread footings 2.5 to 4 feet below the finish floor elevations.

In addition Terracon reviewed the test pits and evaluated the bearing condition of the existing masonry walls. They recommended that no additional load be placed on the existing walls.

EVALUATION OF EXISTING STRUCTURAL MEMBER STRENGTHS

While some of the existing joists appeared to be of high quality, there were many locations where notching of the joists had occurred for piping, ceilings, etc., as well as water damage from previous roof leaks. Consequently it would be unconservative to assign high "old growth" values to the design stresses of the wood joists. Our review of the floor capacities concurred with previous reports indicating existing joists do not meet current building code live load requirements.

REVIEW OF PROPOSED RENOVATION OPTIONS

Preliminary renovation plans prepared by Clayton&Little generally included the following items related to structural issues: removal of interior columns to provide flexible interior space, removal of a portion of the mezzanine, new stairs and elevators, and possible gathering spaces and structures on the roof.

We looked at three potential schemes for removal of the interior columns, bringing up the floor load capacity to meet present building code requirements, and develop the roof as a potential gathering space.

The schemes included:

1. **Steel Framing:** Removal and preservation of wood framing members, and installation of a steel frame to replace the wood floor system at each level. The system would consist of a reinforced light weight concrete slab on a composite metal deck, which would be supported on steel beams roughly 10 feet on center. To achieve the owner's goal of a column free space, the beams supporting the metal deck would span in the north-south direction from wall to wall. These beams would be supported on girders running east-west adjacent to the north and south walls. Columns would be roughly 32 feet on center. To reduce the beam depths the steel beams would be designed as "composite" beams, with headed studs welded to the top of the beams, providing a composite concrete-steel system where the concrete slab provides compressive strength, and the steel beams provide compressive, tensile and shear strength.
2. **Concrete Post-tensioned Slab:** Install a post-tensioned concrete slab and beam system, using the existing flooring as formwork for the concrete. Because the wood floor system is undersized for construction loading, additional rows of temporary shoring running the long direction would be required. Prior to placement of the concrete slab, the wood flooring could be removed for reuse, the floor joists shimmed to level the formwork, and sheathing applied to form the concrete. The slab system would span the east-west direction. The slab would be supported by beams running the north-south direction. The beams could be designed to span from north wall to south wall, supported on concrete columns just inside the existing masonry walls. Space for beams would be created by removing some of the floor joists. Post-tensioning would reduce the slab thickness and beam sizes, limiting the overall weight of the system.
3. **Augmented Wood Framing:** Installation of additional wood framing adjacent to each floor joist to increase the floor load capacity. Installation of steel beams running east west at the sides and center of the structure. Installation of steel trusses spanning north-south, spaced on average about 32 feet on center. These trusses would allow for the removal of the interior columns. At the roof, the roof trusses would be removed to allow for installation of floor framing sized for roof top deck gathering space and/or facilities.

All three schemes would essentially reduce (or not increase) the loads to the existing masonry walls. The



bowing of the north wall would be addressed with installation of new anchors from the wall to the floor framing at each level, and construction of new lateral bracing systems.

The third option was deemed the least expensive, as well as the least intrusive to the historic condition of the structure.

The wall footings as constructed have no additional capacity for any added wall load of increased floor live loads or additional levels. As a result, any rehabilitation of the structure which includes increasing the floor capacity will require additional foundation work. This foundation work will likely involve demolition of the existing floor slab, and installation of drilled piers from within the structure. This can be accomplished under the second level framing utilizing specialty low head clearance drilling equipment. Piers can be drilled just inside of the exterior walls; columns can be placed adjacent to the existing masonry walls. Concrete beams cast as part of the replacement first floor slab can transfer load from the columns to the piers. Piers would be more difficult to construct under the mezzanine; that may require removal of some of the floor framing to provide clearance.

Shallow spread footings were considered in lieu of drilled piers; however the footings would be quite large, more than 8 foot square, and 2.5 feet deep. In addition, it would be difficult to configure the footings to provide concentric loading of the columns to the shallow footings, and eccentric loading would not be recommended (only concentric loading would provide a consistent stress level to all the soils below the footing. Overstress of soils on one side of the footing could lead to differential settlement. It may be possible to design a series of deep north-south beams to help resist footing "tipping" due to eccentric loading; these beams would be deep and heavily reinforced.)

DISCUSSION OF RESULTS

The bowing of the north wall, along with the lean of the interior columns indicated that at some point in the past movement had occurred. This movement is likely do to a combination of inadequate connection of floor joists to masonry walls and inadequate diaphragm strength in the floor system. The single tie rod does not sufficiently address the condition. Repair would include installation of anchors to the floor joist system to brace the masonry wall, review and/or strengthening of the floor diaphragm, and/or installation of additional shear walls.

CONCLUSIONS AND RECOMMENDATIONS

Based on our investigation we conclude:

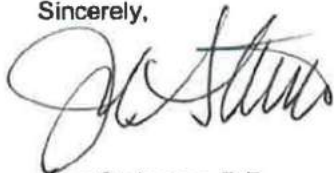
1. The existing framing does not meet current building code requirements. In particular, the floor joists are overspanned.
2. The existing masonry wall footings are not capable of carrying additional load of either added floor levels or increased live loads. Any renovations or additions would require new foundations, likely drilled piers using specialized low head clearance equipment and casing.
3. The bow in the north wall is likely do to a combination of inadequate connection of floor joists to masonry walls and inadequate diaphragm strength in the floor system. The single tie rod does not sufficiently address the condition.
4. The proposed renovations are feasible, and observed defects could be addressed. The plans call for removal of interior columns to provide flexibility. Added columns at the perimeter would likely require drilled piers in lieu of wide shallow footings.

We recommend the following:

1. If the renovation project is not anticipated in the near future, we recommend Installation of additional connections between the masonry walls and the floor system, and augmentation of floor diaphragm or addition of shear walls perpendicular to the north and south walls.

I trust this information meets your project requirements. Please contact me if you have any questions.

Sincerely,



John Steinman, P.E.
Steinman Luevano Structures, LLP
2579 Western Trails Blvd., Suite 240
Austin, TX 78735
Texas Board of Professional Engineers Firm No. 1624



6/19/11



APPENDIX: PHOTOS



Photo 1, North Wall, with Tension Rod Plate Under Window



Photo 2, West Face



Photo 3, Third Level Joists w/ Strap Tie



Photo 4, Third Level Joists w/ Strap Tie



Photo 7, Roof Framing, Notched



Photo 8, Floor Joists, Notched



Photo 9, Northeast Corner, Depth to Concrete Footing

EXHIBIT 4.0

Schedules: Design-Build and CM at Risk

Mexic-Arte Museum				Preliminary Schedule of Activities				01-Jun-11																			
				Design-Build Delivery																							
Activity ID	Activity Name	Original Duration	Start	Finish	2011				2012				2013				2014										
					J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M
A0900	Feasibility Report	31	01-Jul-11	01-Aug-11	■ Feasibility Report																						
A1000	PM/Bridge Document Consultant Procurement Phase	42	01-Aug-11	12-Sep-11	■ PM/Bridge Document Consultant Procurement Phase																						
A1010	As-needed PM Oversight	841	12-Sep-11	31-Dec-13					■ As-needed PM Oversight																		
A1020	Approval of Design-Build Procurement Process (by COA)	21	26-Sep-11	17-Oct-11	■ Approval of Design-Build Procurement Process (by COA)																						
A1030	Bridging Documents/Design Criteria Package Development - 30%	98	17-Oct-11	23-Jan-12	■ Bridging Documents/Design Criteria Package Development - 30%																						
A1040	Design-Build Team Procurement	70	23-Jan-12	02-Apr-12	■ Design-Build Team Procurement																						
A1050	30% - 100% Construction Document Completion by D-B Team	154	02-Apr-12	03-Sep-12	■ 30% - 100% Construction Document Completion by D-B Team																						
A1060	Construction Phase	578	01-Jun-12	31-Dec-13	■ Construction Phase																						

Actual Work

Remaining Work

Critical Remaining ...

◆ Milestone

Page 1 of 1

Schedule Based on Calendar Day

DRAFT

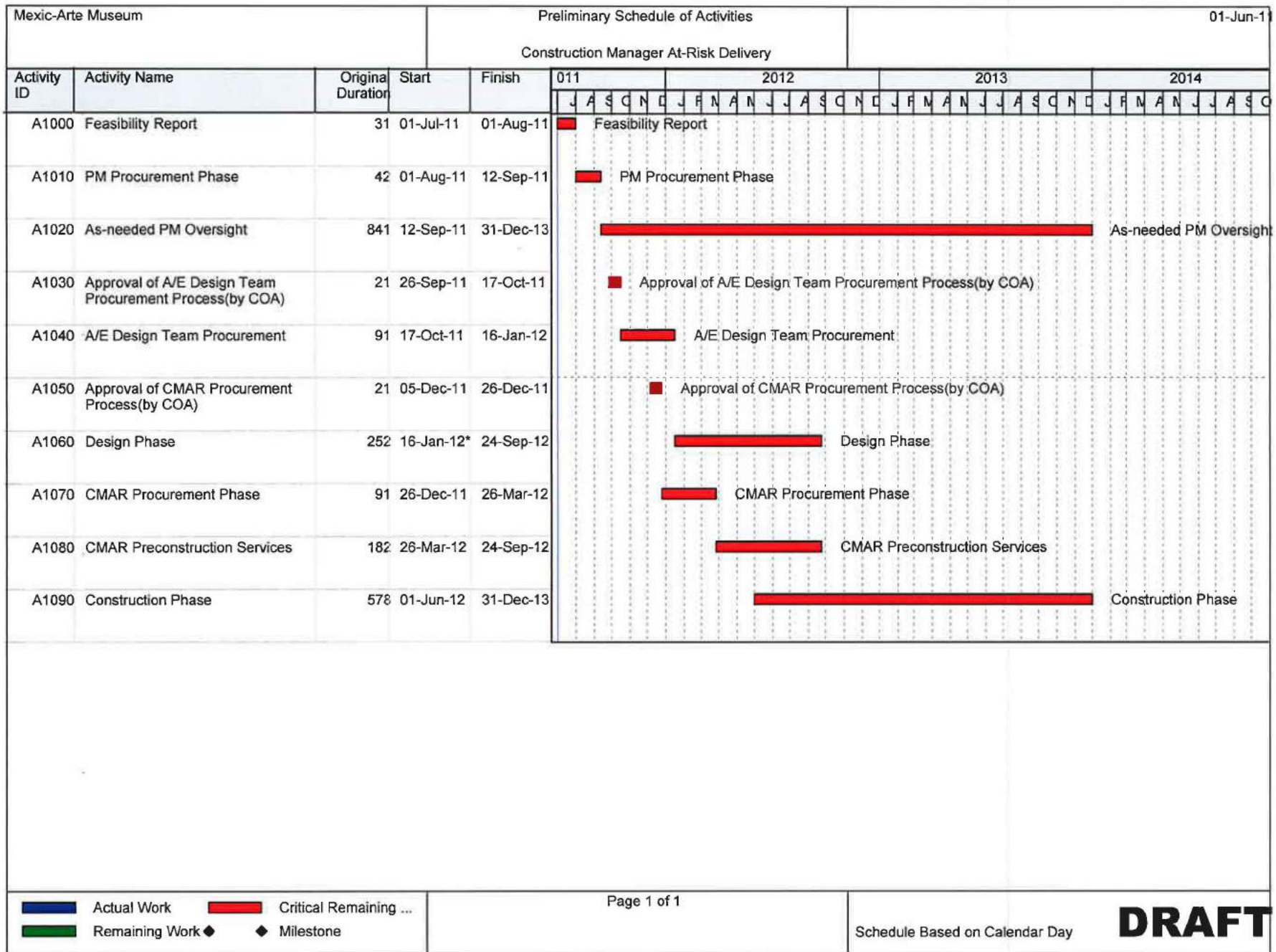


EXHIBIT 5.0

LEED Goal Summary

LEED GOAL SUMMARY

Per the City of Austin bond agreement, this project is to achieve a LEED CI (commercial interiors) Silver rating. Based upon the scope of this project and information from the United States Green Building Council, the governing organization for LEED ratings, this project will most likely be categorized as LEED NC & MR (new construction and major renovation). The LEED requirements for NC & MR were followed for the purposes of this feasibility report. Costs associated with achieving this LEED rating are accounted for in all budgets presented.

It should also be noted that Stuart Hersh, Mexic-Arte Facilities Committee Chair, has had discussions with Richard Morgan, the head of Austin Energy's Green Building Program and it may be possible for this project to pursue a One Star commercial rating thru Austin Energy's Green Building Program in lieu of a LEED Silver rating. This approach, if approved by the City of Austin, could offer substantial cost savings to the project.

Please also reference the following LEED Worksheet that delineates the LEED credits that would likely be pursued as part of the rehabilitation program to achieve a LEED Silver rating.

LEED GOAL WORKSHEET**SILVER RATING****LEED 2009 FOR NEW CONSTRUCTION AND MAJOR RENOVATIONS PROJECT CHECKLIST****Sustainable Sites****26 Possible Points**

		Required	
● Prerequisite 1	Construction Activity Pollution Prevention		
● Credit 1	Site Selection	1	1
● Credit 2	Development Density and Community Connectivity	5	5
● Credit 3	Brownfield Redevelopment	1	
● Credit 4.1	Alternative Transportation—Public Transportation Access - 0.3 MI TO RAIL	6	6
● Credit 4.2	Alternative Transportation—Bicycle Storage and Changing Rooms	1	
● Credit 4.3	Alternative Transportation—Low-Emitting and Fuel-Efficient Vehicles	3	
● Credit 4.4	Alternative Transportation—Parking Capacity - <u>OPTION 3</u>	2	2
● Credit 5.1	Site Development—Protect or Restore Habitat	1	
● Credit 5.2	Site Development—Maximize Open Space	1	
● Credit 6.1	Stormwater Design—Quantity Control	1	
● Credit 6.2	Stormwater Design—Quality Control	1	
● Credit 7.1	Heat Island Effect—Nonroof	1	
● Credit 7.2	Heat Island Effect—Roof - <u>OPTION 3</u>	1	1
● Credit 8	Light Pollution Reduction	1	
		<u>15</u>	

Water Efficiency**10 Possible Points**

		Required	
● Prerequisite 1	Water Use Reduction		
● Credit 1	Water Efficient Landscaping	2-4	
● Credit 2	Innovative Wastewater Technologies	2	
● Credit 3	Water Use Reduction	2-4	3
		<u>18</u>	

Energy and Atmosphere**35 Possible Points**

		Required	
● Prerequisite 1	Fundamental Commissioning of Building Energy Systems		
● Prerequisite 2	Minimum Energy Performance		
● Prerequisite 3	Fundamental Refrigerant Management		
● Credit 1	Optimize Energy Performance - <u>20% FOR 7 PTS</u>	1-19	7
● Credit 2	On-site Renewable Energy	1-7	
● Credit 3	Enhanced Commissioning	2	2
● Credit 4	Enhanced Refrigerant Management	2	2
● Credit 5	Measurement and Verification - <u>OPTION 3</u>	3	1
● Credit 6	Green Power - <u>54% COST PREMIUM</u>	2	2
		<u>32</u>	

Materials and Resources**14 Possible Points**

		Required	
● Prerequisite 1	Storage and Collection of Recyclables		
● Credit 1.1	Building Reuse—Maintain Existing Walls, Floors and Roof	1-3	2
● Credit 1.2	Building Reuse—Maintain Existing Interior Nonstructural Elements	1	1
● Credit 2	Construction Waste Management	1-2	2
● Credit 3	Materials Reuse - <u>10% OF TOTAL</u>	1-2	2
● Credit 4	Recycled Content	1-2	1

Credit 5	Regional Materials	1-2	
Credit 6	Rapidly Renewable Materials	1	
● Credit 7	Certified Wood	1	1
			<u>41</u>
Indoor Environmental Quality		15 Possible Points	
● Prerequisite 1	Minimum Indoor Air Quality Performance	Required	
● Prerequisite 2	Environmental Tobacco Smoke (ETS) Control	Required	
● Credit 1	Outdoor Air Delivery Monitoring	1	1
Credit 2	Increased Ventilation	1	
● Credit 3.1	Construction Indoor Air Quality Management Plan—During Construction	1	1
● Credit 3.2	Construction Indoor Air Quality Management Plan—Before Occupancy	1	1
● Credit 4.1	Low-Emitting Materials—Adhesives and Sealants	1	1
● Credit 4.2	Low-Emitting Materials—Paints and Coatings	1	1
● Credit 4.3	Low-Emitting Materials—Flooring Systems	1	1
● Credit 4.4	Low-Emitting Materials—Composite Wood and Agrifiber Products	1	1
Credit 5	Indoor Chemical and Pollutant Source Control	1	
● Credit 6.1	Controllability of Systems—Lighting	1	1
● Credit 6.2	Controllability of Systems—Thermal Comfort	1	1
● Credit 7.1	Thermal Comfort—Design	1	1
Credit 7.2	Thermal Comfort—Verification	1	
Credit 8.1	Daylight and Views—Daylight	1	
Credit 8.2	Daylight and Views—Views	1	
			<u>51</u>
Innovation in Design		6 Possible Points	
● Credit 1	Innovation in Design - <u>SIGNAGE/OCCUPANT EDUCATION</u>	1-5	1
● Credit 2	LEED Accredited Professional	1	1
			<u>53</u>
Regional Priority		4 Possible Points	
Credit 1	Regional Priority	1-4	

LEED 2009 for New Construction and Major Renovations

100 base points; 6 possible Innovation in Design and 4 Regional Priority points

Certified	40–49 points
Silver	50–59 points
Gold	60–79 points
Platinum	80 points and above

EXHIBIT 6.0

Conceptual Budgets Summary

Mexic Arte Museum
Conceptual Budgets Summary
Options 1, 1a, 1b, 2, 2a and 3

Project Features	Option 1	Option 1a	Option 1b	Option 2	Option 2a	Option 3
General Description	Renovation: New Structural Steel Frame including Elevated Slab on Metal Deck, inside existing Masonry Walls			Renovation: New Structural Steel Frame including Segmented Trusses, LVL Sister Joists and Existing Wood Floor Framing to Remain, inside Existing Masonry Walls		All New Construction with Steel Frame and Masonry Walls
Air-Conditioned space	25,233 s.f.	21,330 s.f.	17,055 s.f.	22,730 s.f.	22,730 s.f.	22,730 s.f.
All new interior super structure	X	X	X	N/A	N/A	X
All new elevated slab on metal decks	X	X	X	N/A	N/A	X
Interior space - column free	X	X	X	X	X	X
Mezzanine level	None	None	None	X	X	X
Salvage and reinstall wood flooring	1st, 2nd, 3rd Floors	1st Floor	1st Floor	1st Floor	1st Floor	N/A
Refinish existing wood flooring	N/A	N/A	N/A	Floors 2, and 3	Floors 2, and 3	N/A
Existing wood floor framing reused	N/A	N/A	N/A	X	X	N/A
Foundations sized for future roof occupancy	X	X	X	X	X	X
Renovated Existing Exterior Masonry Walls	X	X	X	X	X	N/A
HVAC - VRF System (All Floors)	X	X	X	X	X	X
Entrance to facility	North and West	North and West	North and West	North and West	West	West
Proposed Construction Duration	20 months	16 months	14 months	15 Months	12 months	12 months
New Stair Towers (1st floor to roof)	X	X	X	X	X	X
New Passenger Elevator (1st floor to roof)	X	X	X	X	X	X
Finishes 1st Floor	interior walls, paint, ceilings	interior walls, paint, ceilings	interior walls, paint, ceilings	drywall (dbl layer) ceiling, interior walls, paint, ceilings	interior walls, paint, ceilings	interior walls, paint, ceilings
Finishes 2nd Floor	interior walls, paint, ceilings	drywall perimeter walls	drywall perimeter walls	drywall (dbl layer) ceiling, interior walls, paint, ceilings	drywall (dbl layer) ceiling, drywall perimeter walls	interior walls, paint, ceilings
Finishes 3rd Floor	interior walls, paint, ceilings	drywall perimeter walls	drywall perimeter walls	drywall (dbl layer) ceiling, interior walls, paint, ceilings	drywall (dbl layer) ceiling, drywall perimeter walls	drywall perimeter walls
Finishes Mezzanine Level	NA	NA	NA	drywall (dbl layer) ceiling, interior walls, paint, ceilings	drywall (dbl layer) ceiling, drywall perimeter walls	drywall perimeter walls
Restrooms	2 per Floor (1, 2 & 3)	2 per Floor (1, 2 & 3)	2 per Floor (1, 2 & 3)	2 per Floor (1, 2 & 3)	2 per Floor (1, 2 & 3)	2 per Floor (1, 2 & 3)
Interior Glazing for Museum Store	X	X	X	X	X	X
Museum Lighting Allowance	X	X	X	X	X	X
More design flexibility	X	X	X	N/A	N/A	X
Roof Level Glass Reception Room and Corridor	X	None	None	None	None	None
Conceptual Budget	\$9,365,788	\$7,576,759	\$7,277,153	\$8,109,024	\$6,750,175	\$6,499,195
Project Contingency (included in budget)	\$1,077,285	\$855,613	\$821,086	\$923,291	\$762,805	\$395,000

acceptable for museums → \$286/SF?
w/ice TR.?
demo. cost?
soft costs?

EXHIBIT 7.0

Building Code Summary for Rehabilitation

BUILDING CODE SUMMARY

This summary was prepared with input from Stuart Hersh, Mexic-Arte Facilities Committee Chair, Ron Menard, City of Austin Watershed Protection and Development Review, and David Deming, a State of Texas Registered Accessibility Specialist.

It was determined previously that the upper floors of the building do not have the structural capacity, the life safety components (primarily exiting), restrooms, or the accessibility facilities required for assembly occupancy.

Based upon the preferred program, the rehabilitated building would have (primarily) assembly occupancy on the second floor, office use on the third floor and assembly use on the fourth floor, both interior and open air. These uses will require a change of occupancy from Business to Assembly (A3) Occupancy.

Due to the change of occupancy and the existing construction type of the building, the following major improvements will need to be made (these items are accounted for in all budget versions presented):

1. Installation of an automatic fire sprinkler system at all occupied spaces.
2. Structural support (and new foundation) to help support the additional floor loads associated with Assembly occupancy.
3. Two new enclosed, fire rated stair towers, at opposite corners of the building.
4. Installation of a new passenger elevator, serving all levels except the mezzanine.

Please also reference the following Memorandum to Ron Menard, dated 5.27.11, for a more detailed technical summary of the building code related directions pursued during this feasibility study.

Applicable Building Codes:

2009 International Existing Building Code
2009 International Property Maintenance Code
2009 International Building Code
2009 International Energy Conservation Code
2008 Amended National Electric Code
2009 International Fire Code
2009 Uniform Mechanical Code
2009 Uniform Plumbing Code
Texas Accessibility Standards
Americans with Disabilities Act

EXHIBIT 7.1

COA/CLA Meeting Memorandum

Architects
Clayton&Little
1001 East 8th Street
Austin Texas 78702
512 477 1727

Memorandum

Date: 5.27.11

To: Ron Menard, Plan Review Coordinator, Commercial Plan Review
City of Austin, Watershed Protection and Development Review

From: George Wilcox, Clayton&Little Architects

CC: MexicArte Museum Building Committee

These notes are intended to be a summary of the items discussed at our meeting in your office this morning with Stuart Hersh and I. It is our understanding that if we adhere to the items summarized below, that the building department would approve this project for construction.

We are working on the feasibility phase of a renovation to the current building at 419 Congress avenue for the building owner, MexicArte Museum. This building is in the Congress Ave. National Register Historic District. The building owner intends to seek historic tax credits for the renovation of this building. We have met with Texas Historical Commission personnel and have their approval for our proposed scope of work.

Our current plan is to renovate the existing building per the requirements of all applicable codes, including (but not limited to) the International Property Maintenance Code, The International Existing Building Code, The International Building Code (and associated Mechanical and Plumbing codes), the National Electric Code, Texas Accessibility Standards and the ADA.

We plan to add new structural elements to the building to support the existing floors for assembly occupancy loading, including a possible fourth floor assembly space and roof deck. The existing exterior walls will remain in place, but will be patched and repaired.

We plan to renovate the building to meet the requirements of construction type IIIA. The renovated building will have an automatic fire sprinkler system and two new two-hour rated stair enclosures. We will be able to add a story to the three allowed in IBC table 503 because of the automatic fire sprinkler. Per IBC section 505.4, exception 1, the mezzanine may be enclosed because its occupant load will be less than 10.

Building structural elements will need to have a one hour fire rating. Because we intend to construct the building to standards required for a higher occupancy classification (A-3), occupancy separation requirements will be downgraded.

If budget dictates, the second and third floor spaces can be constructed as minimally conditioned shell space and finished at a later time. Likewise, with the proper sizing of structure and egress elements, the fourth floor and roof deck could be added at a later time.

EXHIBIT 7.2

Building Code Summary for New Construction

Building Code Summary for New Construction

This summary was prepared with input from Stuart Hersh, Mexic-Arte Facilities Committee Chair

In order to build a new structure on the existing site located at 419 Congress Avenue, the City of Austin will require the following:

1. Historical Landmark Commission review of the request to issue a demolition permit in an historical district
2. A demolition permit application with all required submittals
3. Green Building application to Austin Energy that will result in at least a One-Star Rating
4. Submittal of a site plan either prior to or currently with a building permit application
5. A building permit application with all required attachments and demonstrated compliance with the following:

Building Code

2009 IBC <<http://www.cityofaustin.org/edims/document.cfm?id=139836>>

International Building Code includes the 2009 International Existing Building Code (Ord.# 20100624-143, effective 10-1-10)

Energy Code

2009 IECC <<http://www.cityofaustin.org/edims/document.cfm?id=135892>>

International Energy Conservation Code (Ord.# 20100408-051, effective 10-1-10)

Electric Code

2008 <<http://www.cityofaustin.org/edims/document.cfm?id=126596>>

National Electrical Code Ordinance (Ord.# 20090305-047, effective 01-16-09)

2008 NEC <<http://www.cityofaustin.org/edims/document.cfm?id=139756>>

Amended National Electric Code (Ord.# 20060624-147, effective 10-1-10)

Fire Code

2009 IFC <<http://www.cityofaustin.org/edims/document.cfm?id=139760>>

International Fire Code (Ord.# 20100624-142, effective 10-1-10)

Mechanical Code

2009 UMC <<http://www.cityofaustin.org/edims/document.cfm?id=139758>>

Uniform Mechanical Code (Ord.# 20100624-145, effective 10-1-10)

Plumbing Code

2009 UPC <<http://www.cityofaustin.org/edims/document.cfm?id=139757>>

Uniform Plumbing Code (Ord.#2010624-146, effective 10-1-10)

<<http://www.cityofaustin.org/edims/document.cfm?id=139621>>

Structures

Remodel Ordinance (Ord.# 20100624-149, effective 06-24-10)

3rd Party Commissioning Form

<[http://www.ci.austin.tx.us/development/downloads/coa_cx_acceptance_template .pdf](http://www.ci.austin.tx.us/development/downloads/coa_cx_acceptance_template.pdf)>

(Required for 10,000 SF of new conditioned space)

EXHIBIT 8.0

Program Plans Existing Use

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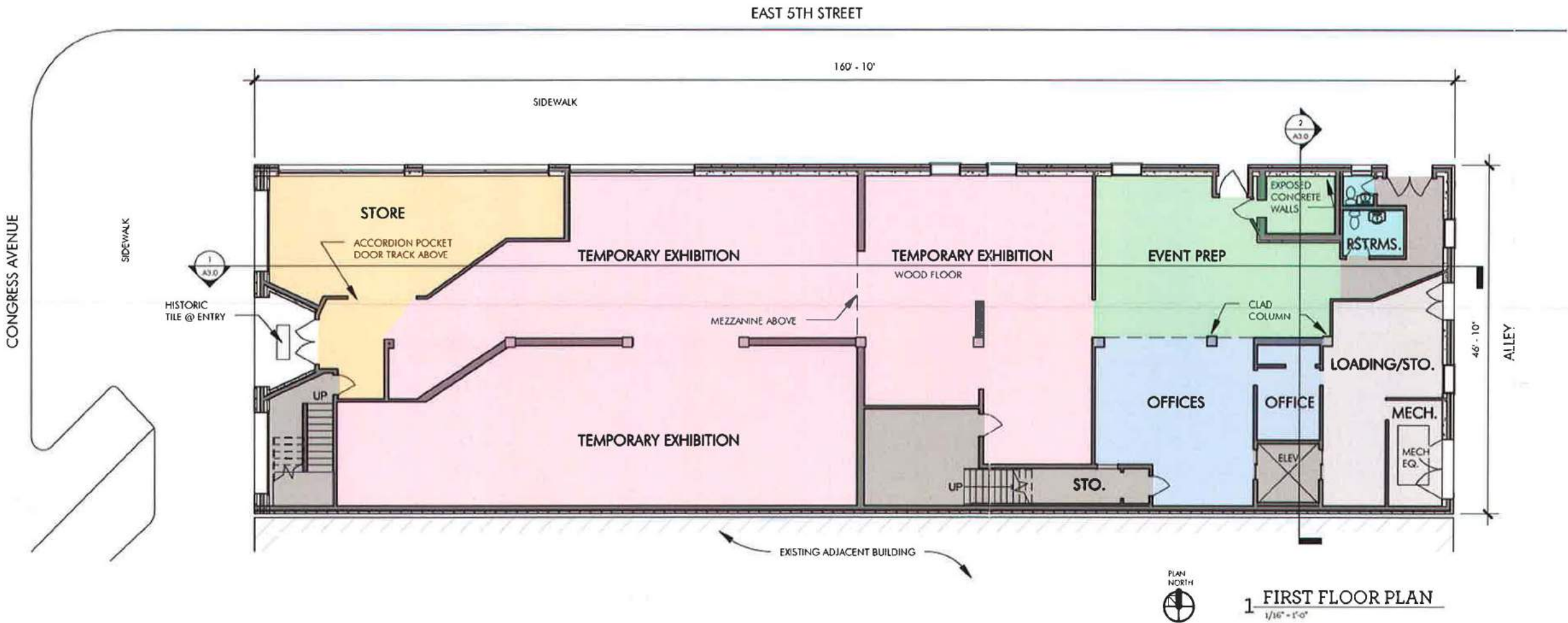
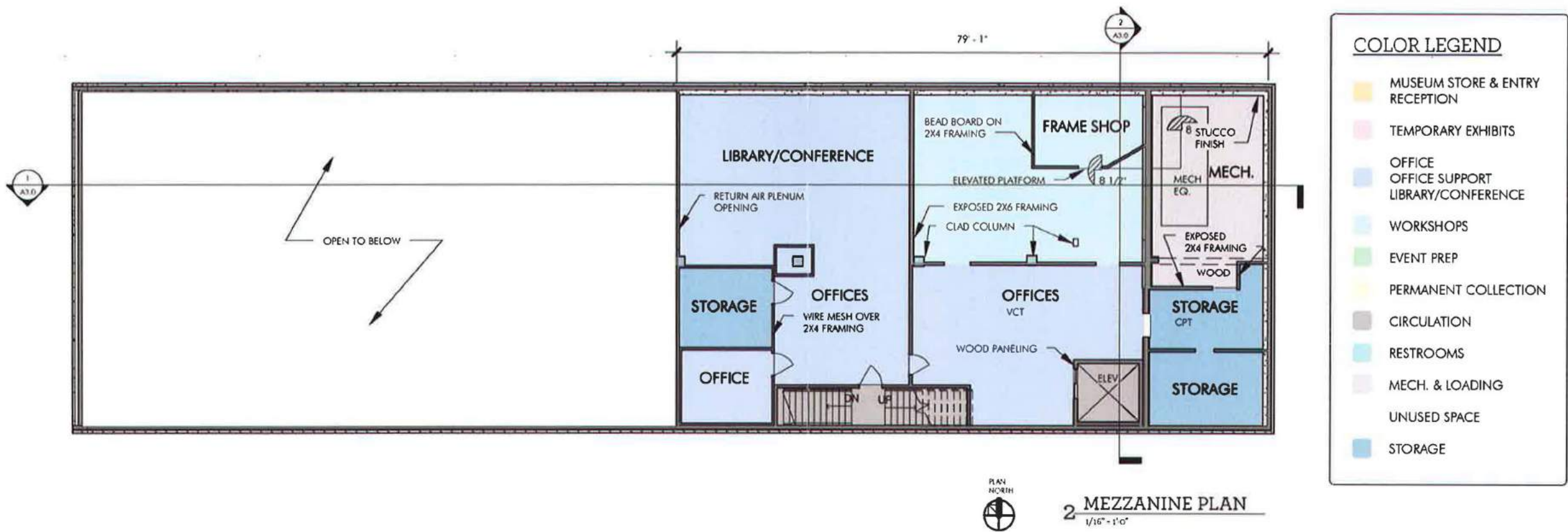
MEXIC-ARTE MUSEUM

419 Congress Avenue Austin, Texas 78701

June 8, 2011

Base drawings measured &
prepared by Austin Floor Plans
dated 02.24.11

PROGRAM PLAN
FOR EXISTING
USE OF BUILDING



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MEXIC-ARTE MUSEUM

419 Congress Avenue Austin, Texas 78701

June 8, 2011

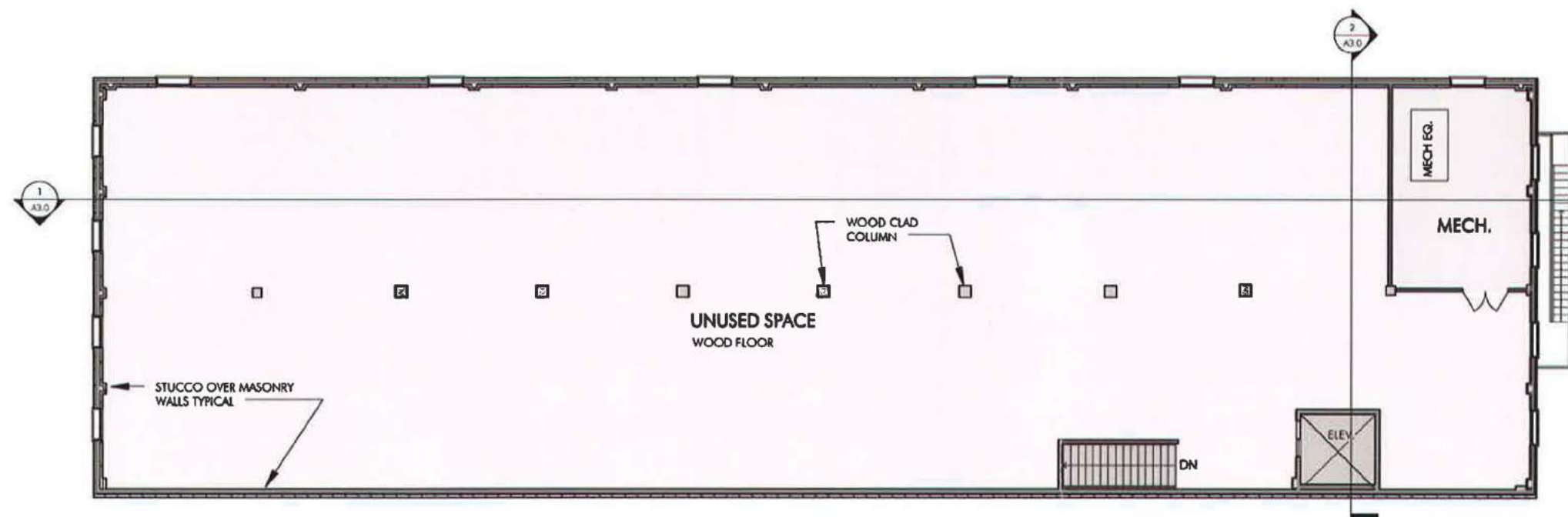
Base drawings measured &
prepared by Austin Floor Plans
dated 02.24.11

PROGRAM PLAN
FOR EXISTING
USE OF BUILDING

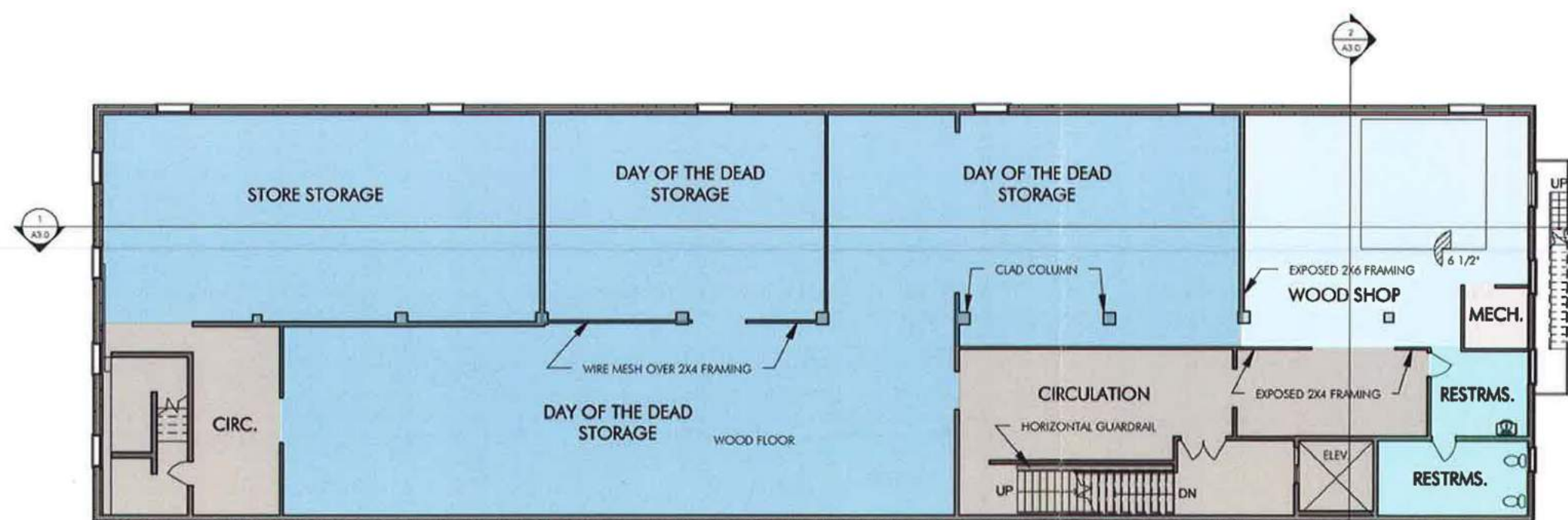
1 OF 2

COLOR LEGEND

- MUSEUM STORE & ENTRY
RECEPTION
- TEMPORARY EXHIBITS
- OFFICE
OFFICE SUPPORT
LIBRARY/CONFERENCE
- WORKSHOPS
- EVENT PREP
- PERMANENT COLLECTION
- CIRCULATION
- RESTROOMS
- MECH. & LOADING
- UNUSED SPACE
- STORAGE



2 THIRD FLOOR PLAN
1/16" = 1'-0"



1 SECOND FLOOR PLAN
1/16" = 1'-0"

EXHIBIT 8.1

Program Summary and Diagram

Sylvia Orozco - Executive Director

From: Emily Little [Emily@claytonandlittle.com]
Sent: Tuesday, April 05, 2011 10:23 AM
To: Sylvia Orozco - Executive Director; Frank Rodriguez; Gonzales, Alex
Cc: John Hogg; davidgarza@austin.rr.com; Stuart Hersh; Jeffrey Utterback; Paul Clayton; George Wilcox; Carolina Cantu
Subject: RE: Program Summary
Attachments: MAM Program Summary 04.05.11.pdf; MAM Program Diagram 04.05.11.pdf

Greetings –

Attached please find two pdfs, a written and diagrammatic Summary-in-Progress of the Program for Mexic-Arte space needs.

Please note that the areas calculated are rough calculations and represent general areas only. I have added an area on the Roof, with the possibility of enclosing 1500 square feet. This depends on THC review, but it gives us a point of discussion. We have learned that two enclosed stairs are required from roof (if used) to first floor, so the area at the front (west end) of the building is getting tighter, reducing area for Museum Store and Temporary Exhibition space.

Per our last programming meeting on March 30, the staff and members of Mexic-Arte Board requested copies of this material for internal discussions of programming assessment. If you can provide your feedback by the end of this week, we will incorporate into our final Program Summary to be issued 4-13-2011.

We will meet again on Wednesday, April 13, 12 noon – 2 pm, at my office to review the final program, get update on Texas Historical Commission (THC) and City of Austin Historic Landmark (AHLIC) staff meetings and review early schematic design ideas.

Let me know if you have any questions.

Thank you.

Emily Little FAIA

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Clayton&Little
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Austin Texas 78702
512 477 1727 x202

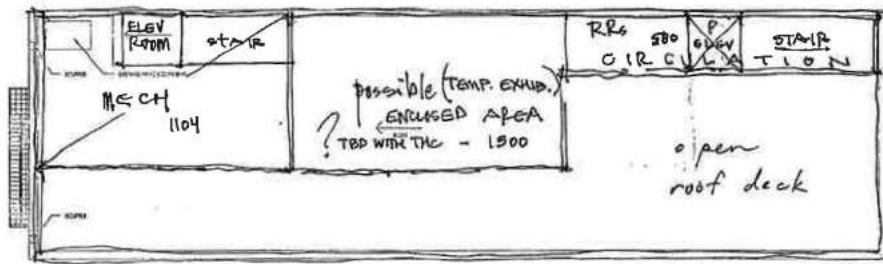
www.claytonandlittle.com

From: Emily Little
Sent: Monday, April 04, 2011 2:53 PM
To: 'Sylvia Orozco - Executive Director'; 'Frank Rodriguez'
Cc: 'John Hogg'; davidgarza@austin.rr.com; Stuart Hersh; 'Jeffrey Utterback'; Paul Clayton; George Wilcox
Subject: Program Summary

Greetings All – I will send you the Mexic-Arte Program Summary by mid-day tomorrow.

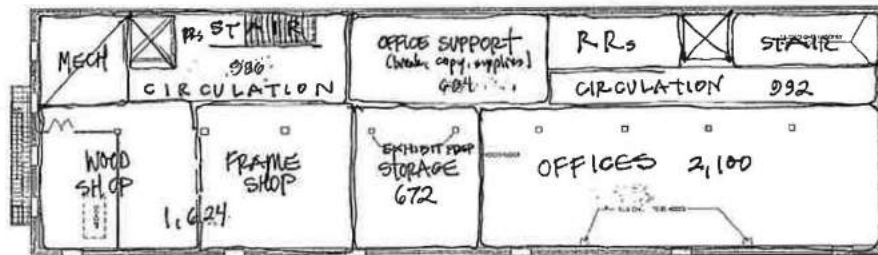
Thank you.

Emily

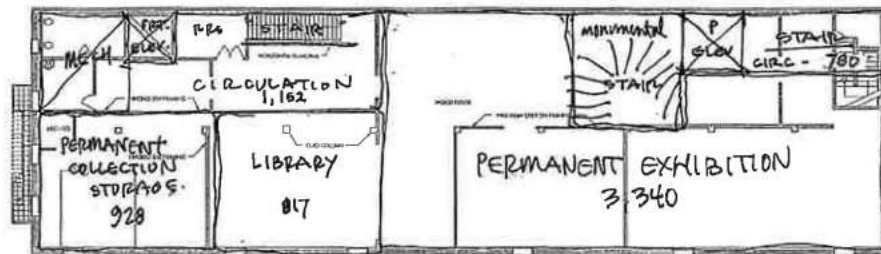


AREAS PROPOSED
REQUIRE VERIFICATION
OF EXIST LINES &
T-H-C APPROVAL

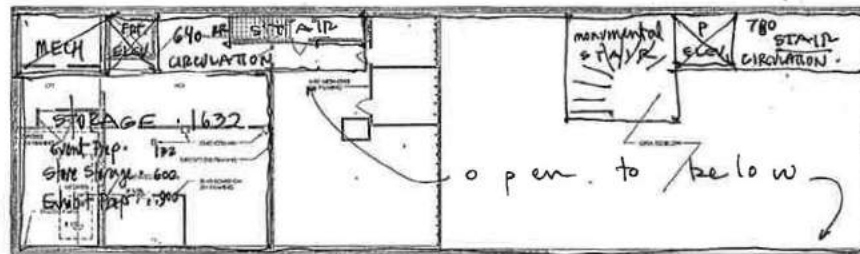
Roof



3

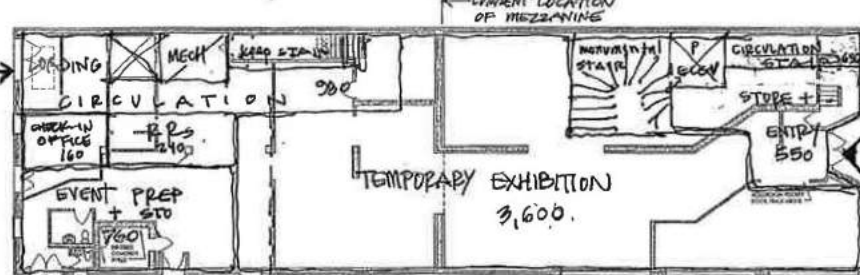


2



MEZZ

MEZZANINE
CUT BACK MEZZANINE
TWO BAYS (to east)



NOTE:
ALL AREAS
REPRESENT
GENERAL
AREA
CALCULATIONS.
SQUARE FOOT TOTALS
ARE NOT PRECISE

LOW CEILING
... FIFTH STREET ...



Scale: 1/8" = 1'-0"

MEXIC-ARTE PROGRAM DIAGRAM

WORK-IN-PROGRESS
4.5.2011

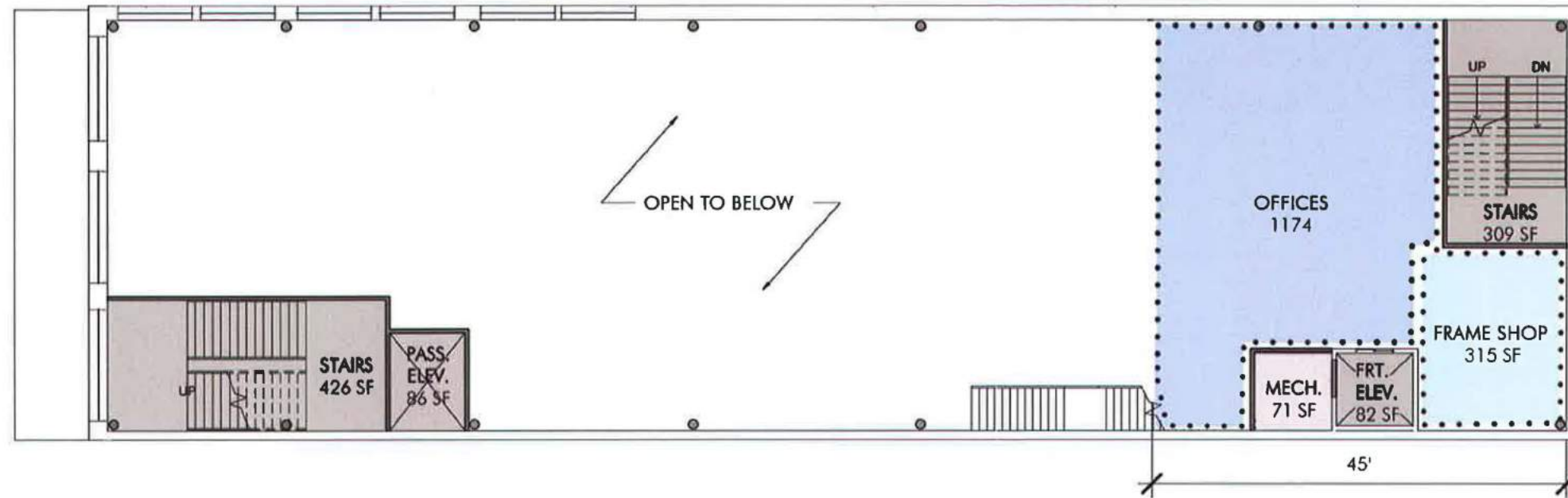
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MEXIC ARTE MUSEUM PROGRAM SUMMARY PRELIMINARY 04.05.2011

4 FLOOR SCHEME BY M.A.M. JAN 2011		EXISTING USE OF SPACE					PROPOSED 04.05.2011 DIAGRAM			
COMPARABLE USES		AREAS	SPACE USAGE	LEVEL	SQ. FT.	TOTAL	TOTAL	SQ. FT.	LEVEL	
SQ. FT.										
1,360		MUSEUM STORE & ENTRY	STORE	1	630	1,270	1,150	550	1	
			STORAGE	1	640			600	M	
4,616		TEMPORARY EXHIBITS		1	3,740	3,740	5,100	3,600	1	
								1,500	R	
1,120		EXHIBIT ELEMENTS		M	189	1,824	1,732	900	M	
			INCOMING/OUTGOING	2	1,011			672	3	
			WALLS, TABLES	3	624			160	1	
2,556		OFFICE		1	759	1,522	2,100		3	
				M	763					
812		OFFICE SUPPORT		1	273	353	684		3	
			COPY, EDUC. MATERIALS	M	80					
784		LIBRARY/CONFERENCE		M	538	538	817		2	
1,456		WORKSHOP	TOOLS	1	124	1,700	1,624		3	
			FRAME SHOP	M	723					
			WOOD SHOP	2	853					
872		EVENT PREP	PREP. AREA	1	834	1,034	892	760	1	
			BAR/SUPPLIES/CHAIR STO.	M	200			132	M	
4,994		PERMANENT COLLECTION		M	619	2,886	4,268	3,340	2	
				2	1,457			928 STO.	2	
				3	810					
4,512		MECH./CIRC./R.R./LOADING		TOTAL		2,156	2,156	8,886	1,684	R
								1,978	3	
								1,932	2	
								1,420	M	
								1,872	1	
NEW USES		TOTAL		1	242	6,193				
AREA	SQ. FT.	23,082		2	335					
LOADING	480	TOTAL NEW AREAS		3	5,616					
TRASH DOCK	168	7,916								
SECURITY	308									
LOBBY/RECEPTION	2,552									
LEVEL 1 SUBTOTAL	3,508									
CLASSROOM	900									
JAN 2011 SCHEME: TOTAL DESIRED		30,998		NOT IN USE DAY OF THE DEAD STORAGE		2	2,067	2,067		

EXHIBIT 8.2

*Proposed Rehabilitation Program Plans and
Elevations – Option 2a*



2 MEZZANINE PLAN - FINISHED OUT
1/16" = 1'-0"

COLOR LEGEND

- MUSEUM STORE & ENTRY RECEPTION
- TEMPORARY EXHIBITS
- OFFICE
OFFICE SUPPORT
LIBRARY/CONFERENCE
- WORKSHOPS
- EVENT PREP
- PERMANENT COLLECTION
- CIRCULATION
- RESTROOMS
- MECH. & LOADING
- UNUSED SPACE
- STORAGE

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Feasibility Study for MEXIC-ARTE MUSEUM

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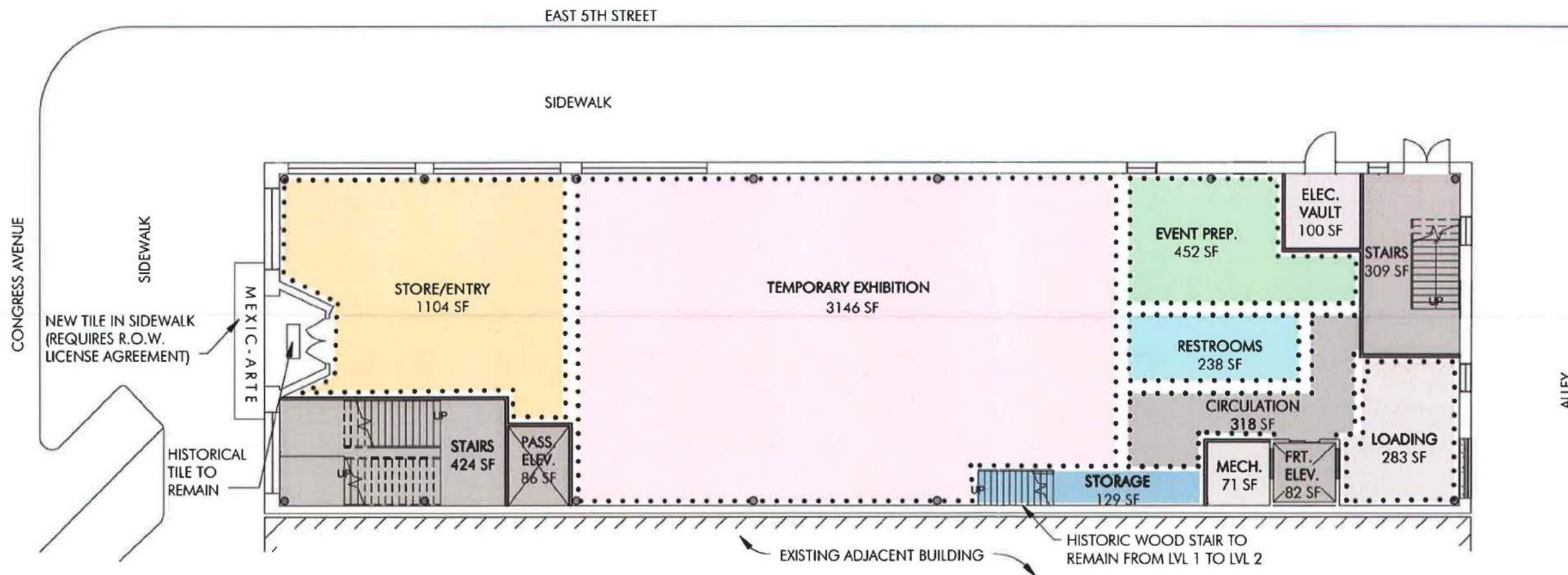
June 8, 2011

1 FINISHED FLOOR
+MEZZANINE

OPTION 2a

•
PROPOSED
PROGRAM
FLOOR PLANS

1 OF 3



1 FIRST FLOOR PLAN - FINISHED OUT
1/16" = 1'-0"

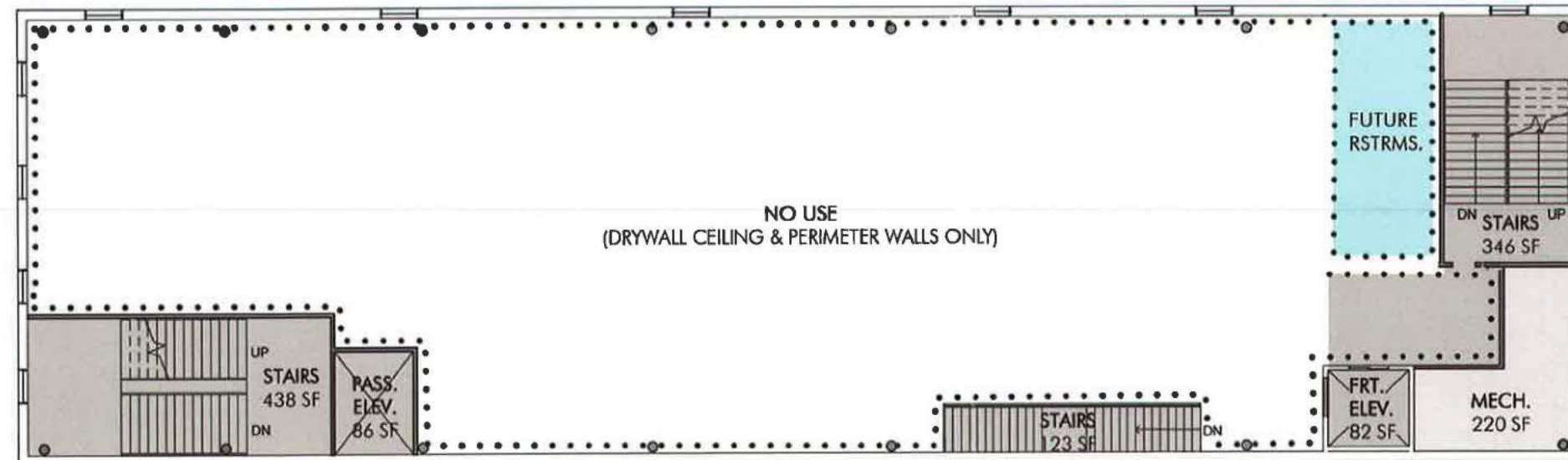


COLOR LEGEND

- MUSEUM STORE & ENTRY RECEPTION
- TEMPORARY EXHIBITS
- OFFICE OFFICE SUPPORT LIBRARY/CONFERENCE
- WORKSHOPS
- EVENT PREP
- PERMANENT COLLECTION
- CIRCULATION
- RESTROOMS
- MECH. & LOADING
- UNUSED SPACE
- STORAGE



2 THIRD FLOOR PLAN - SPRINKLED & HVAC ONLY
1/16" = 1'-0"



1 SECOND FLOOR PLAN - SPRINKLED & HVAC ONLY
1/16" = 1'-0"

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Feasibility Study for MEXIC-ARTE MUSEUM 419 Congress Avenue Austin, Texas 78701

June 8, 2011

1 FINISHED FLOOR
+MEZZANINE

OPTION 2a

PROPOSED
PROGRAM
FLOOR PLANS

2 OF 3

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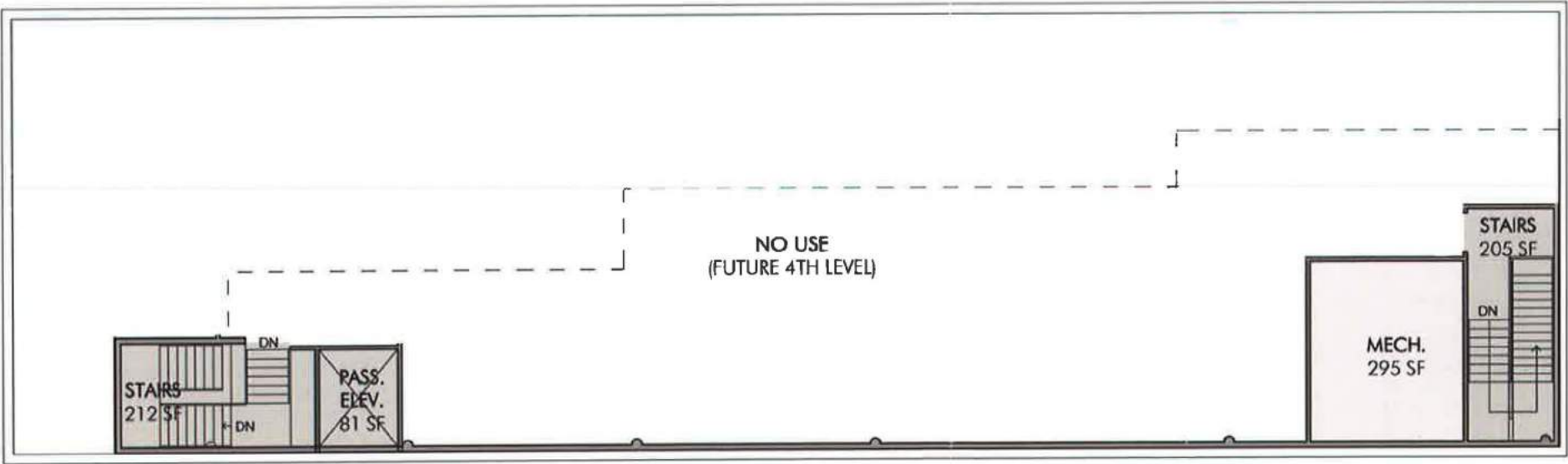
June 8, 2011

1 FINISHED FLOOR
+MEZZANINE
OPTION 2a

•
PROPOSED
PROGRAM
FLOOR PLANS
3 OF 3

COLOR LEGEND

- MUSEUM STORE & ENTRY
RECEPTION
- TEMPORARY EXHIBITS
- OFFICE
OFFICE SUPPORT
LIBRARY/CONFERENCE
- WORKSHOPS
- EVENT PREP
- PERMANENT COLLECTION
- CIRCULATION
- RESTROOMS
- MECH. & LOADING
- UNUSED SPACE
- STORAGE



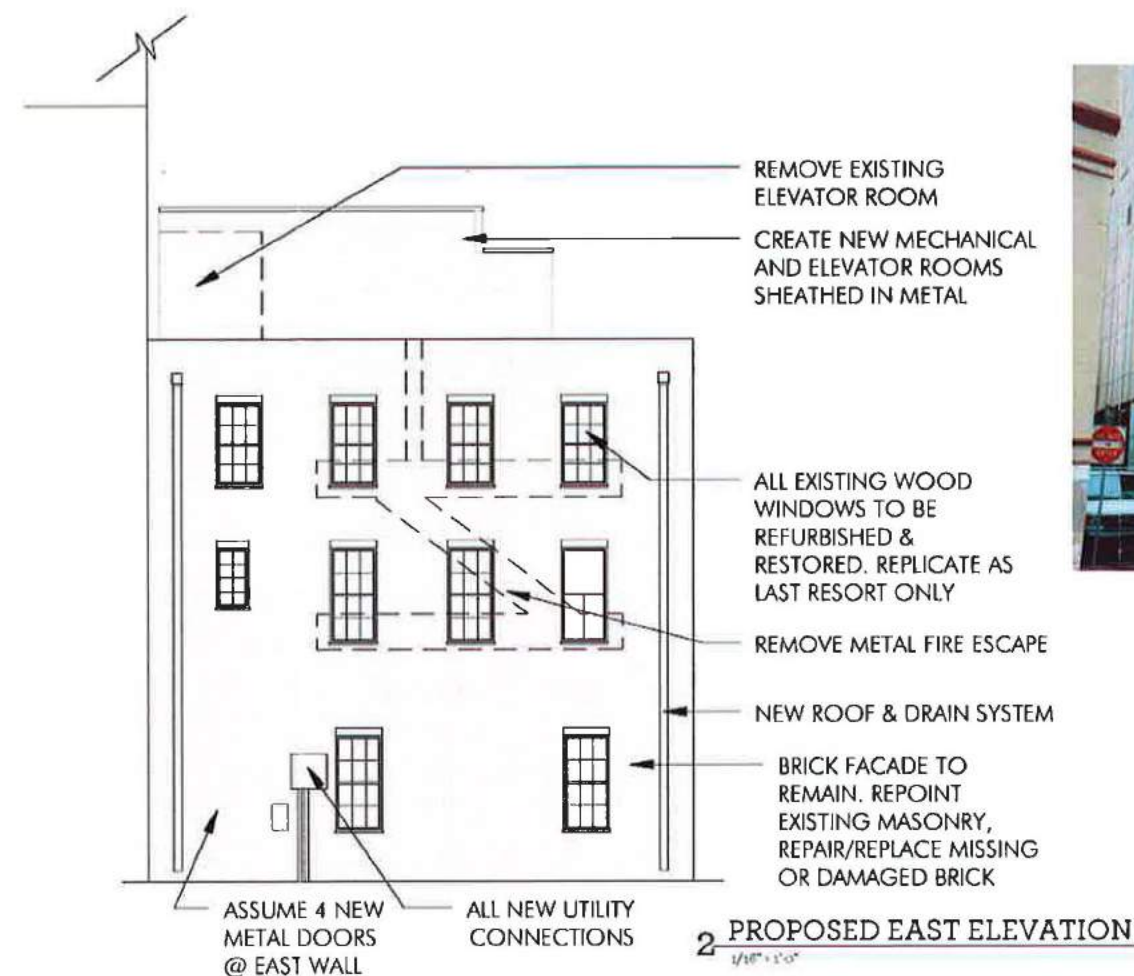
1 FOURTH FLOOR/ROOF PLAN - MECH. & STAIR/ELEV. TOWERS ONLY
1/16" = 1'-0"



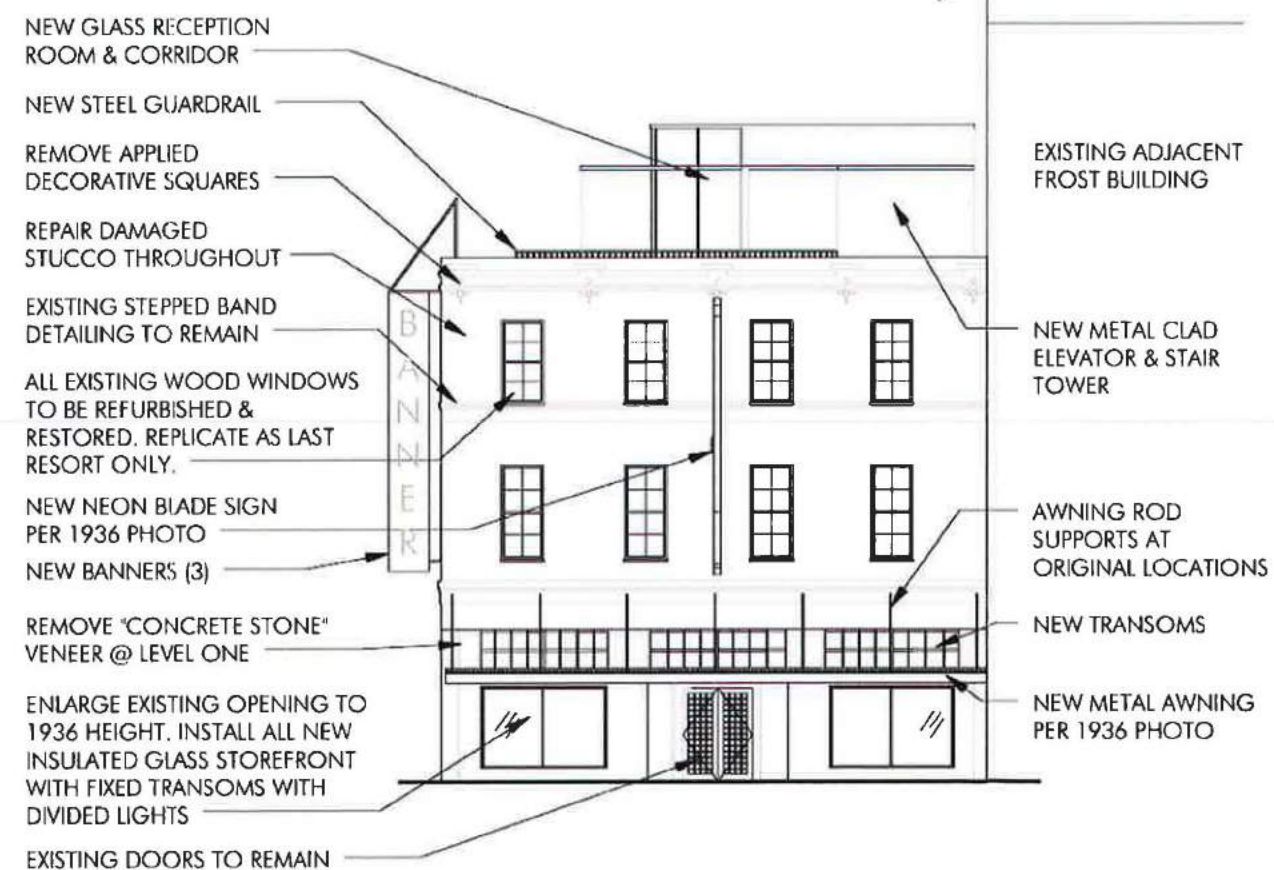
1936 PHOTO



2011 PHOTO



2011 PHOTO



EXTERIOR ELEMENTS TO BE RESTORED PER 1936 HISTORIC PHOTO.

1 PROPOSED WEST ELEVATION
1/4" = 1'-0"

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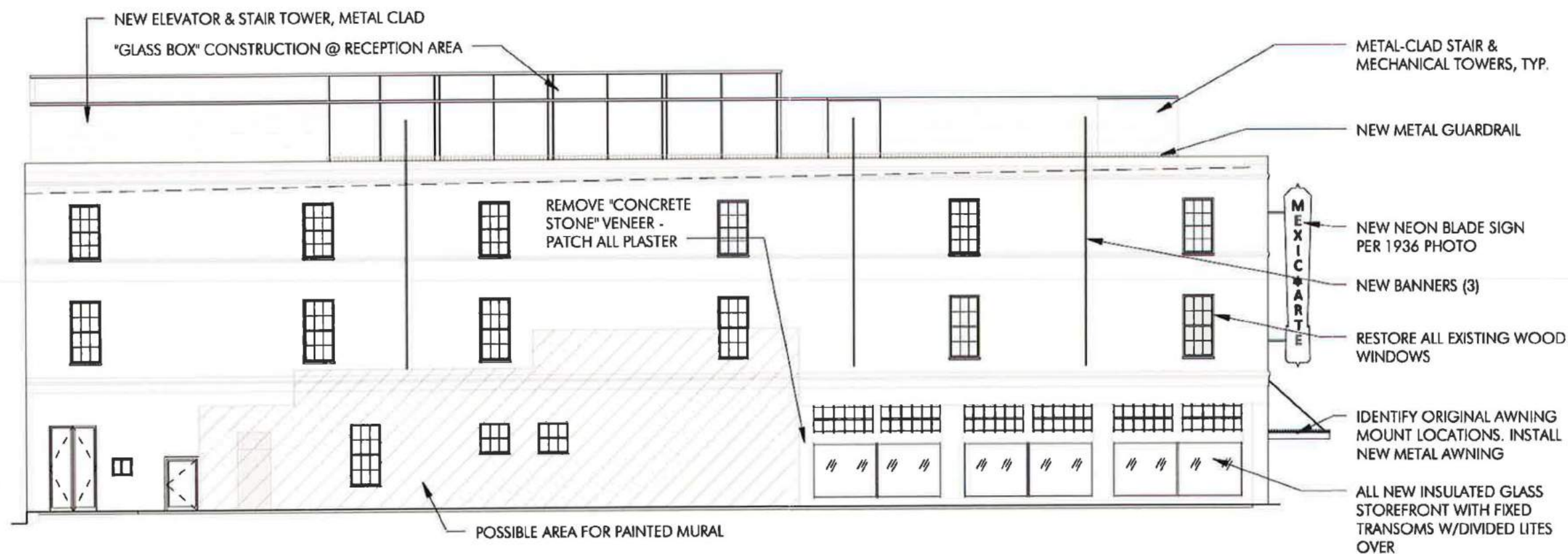
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June 8, 2011

PROPOSED
REHABILITATION
OF EXTERIOR



2011 PHOTO



1 PROPOSED NORTH ELEVATION
1/16" = 1'-0"

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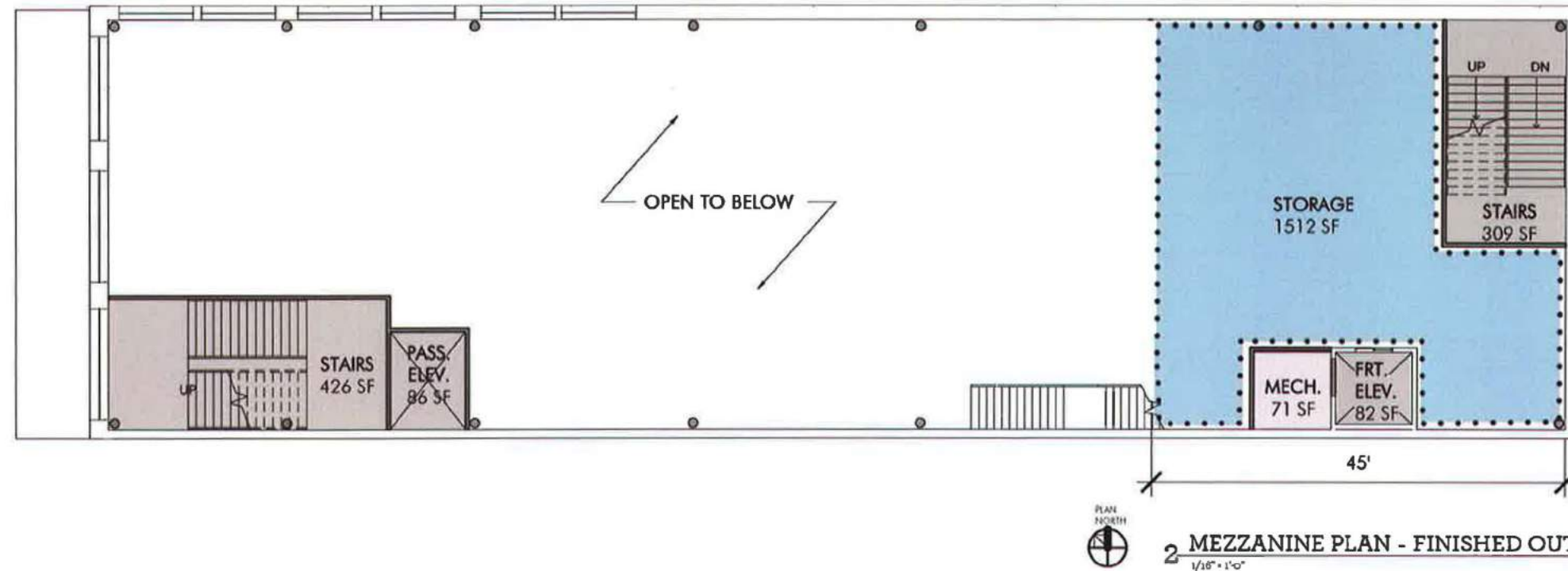
Feasibility Study for MEXIC-ARTE MUSEUM 419 Congress Avenue Austin, Texas 78701

June 8, 2011

PROPOSED
REHABILITATION
OF EXTERIOR

EXHIBIT 8.3

*Proposed Rehabilitation Program Plans
– Full Finish-Out*



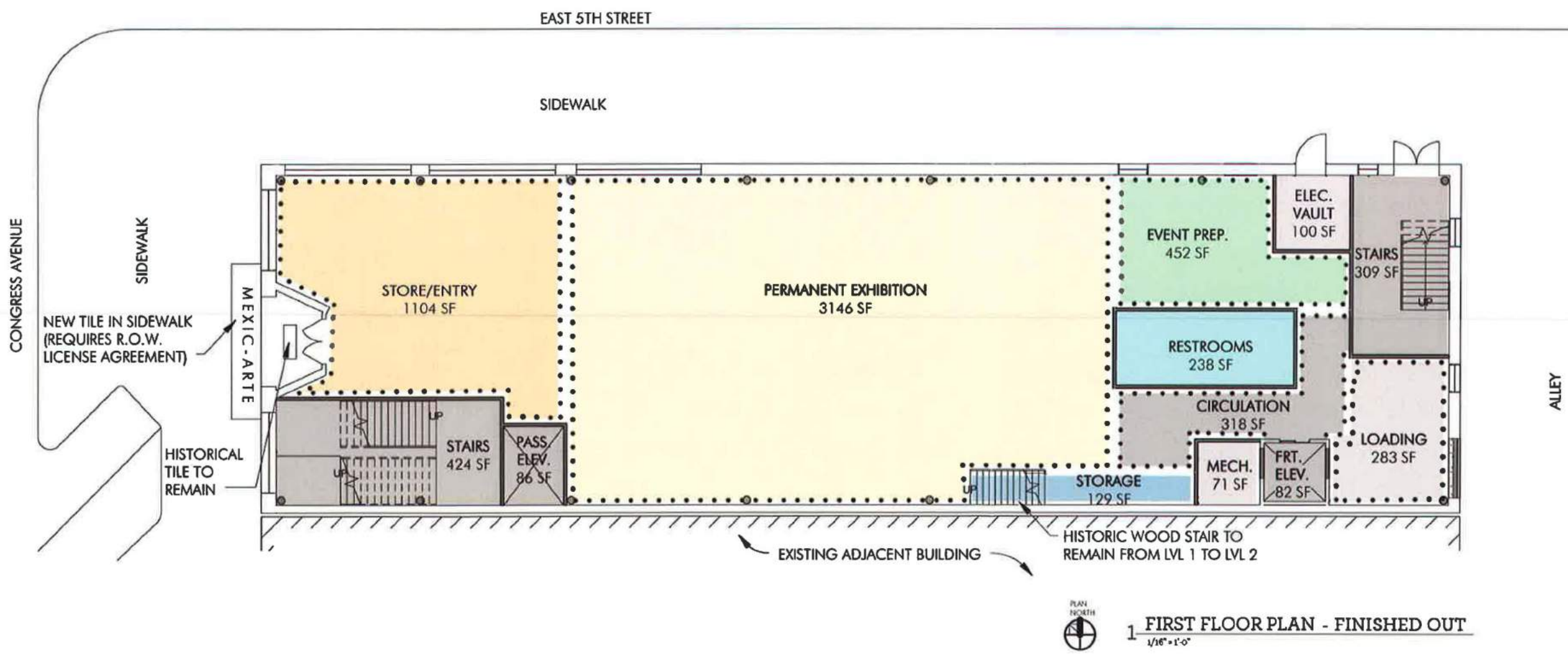
COLOR LEGEND

- MUSEUM STORE & ENTRY RECEPTION
- TEMPORARY EXHIBITS
- OFFICE OFFICE SUPPORT LIBRARY/CONFERENCE
- WORKSHOPS
- EVENT PREP
- PERMANENT COLLECTION
- CIRCULATION
- RESTROOMS
- MECH. & LOADING
- UNUSED SPACE
- STORAGE

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Feasibility Study for
MEXIC-ARTE MUSEUM
 419 Congress Avenue Austin, Texas 78701



June 8, 2011

PREFERRED
 4 FINISHED FLOORS
 + MEZZANINE
 •
 PROPOSED
 PROGRAM
 FLOOR PLANS

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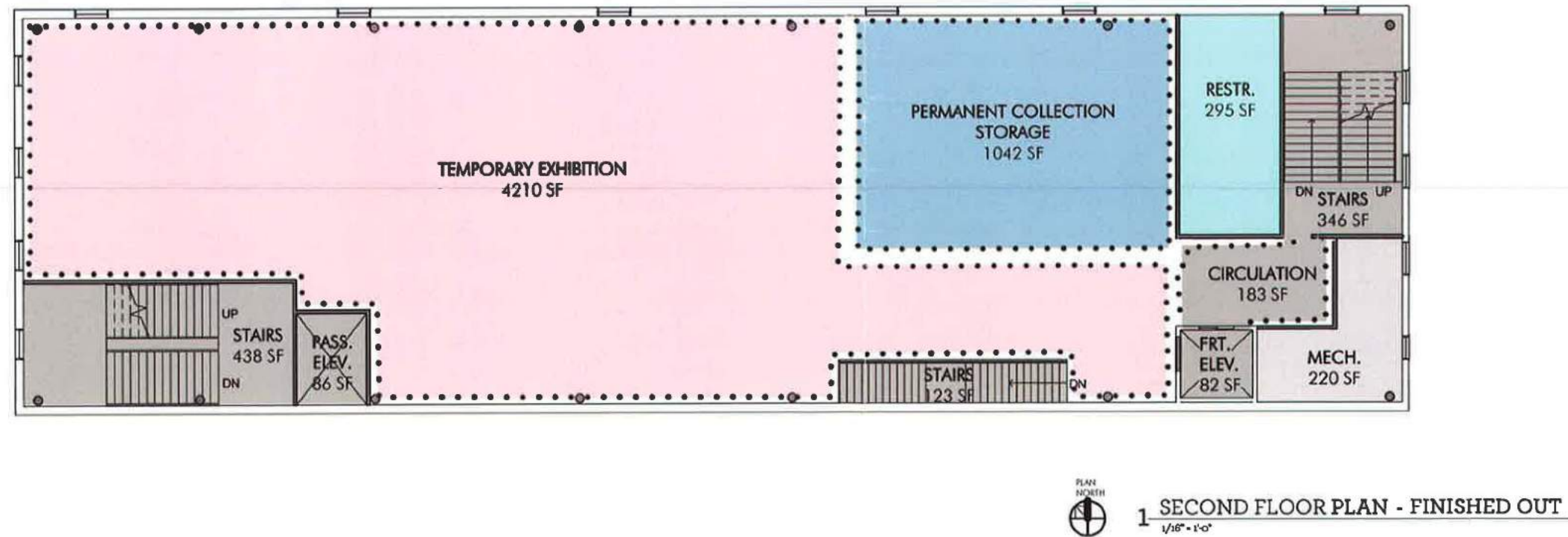
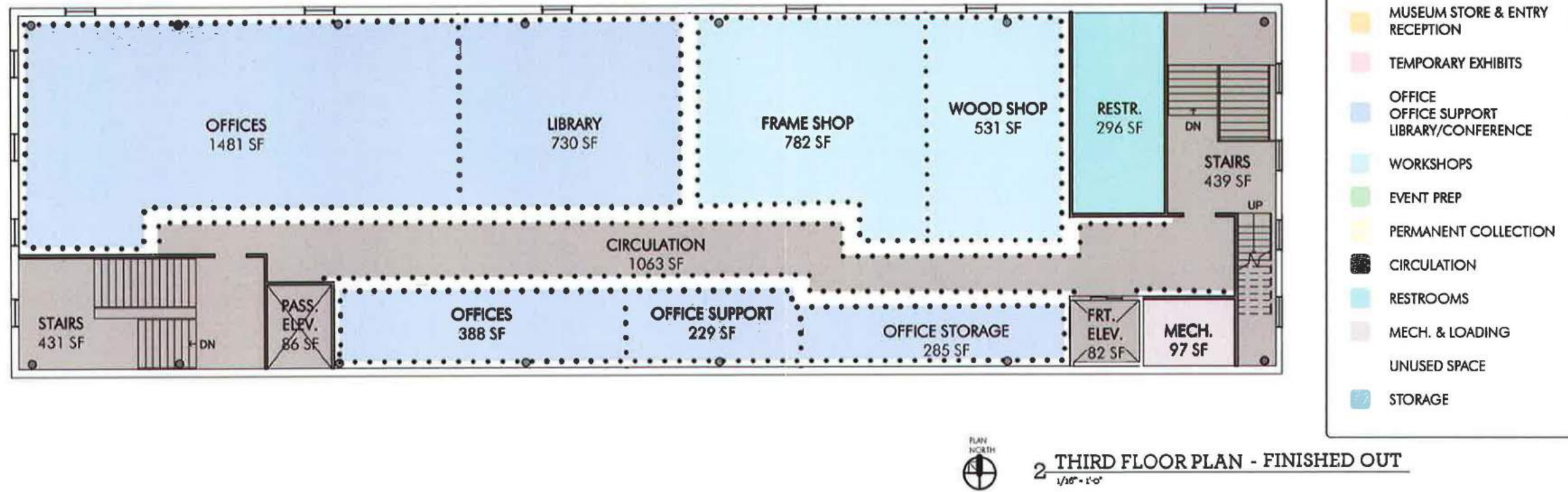
Feasibility Study for MEXIC-ARTE MUSEUM 419 Congress Avenue Austin, Texas 78701

June 8, 2011

PREFERRED
4 FINISHED FLOORS
+ MEZZANINE

PROPOSED
PROGRAM
FLOOR PLANS

2 OF 3



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Austin, Texas 78702
512 477 1727

www.claytonandlittle.com

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Feasibility Study for MEXIC-ARTE MUSEUM 419 Congress Avenue Austin, Texas 78701

June 8, 2011

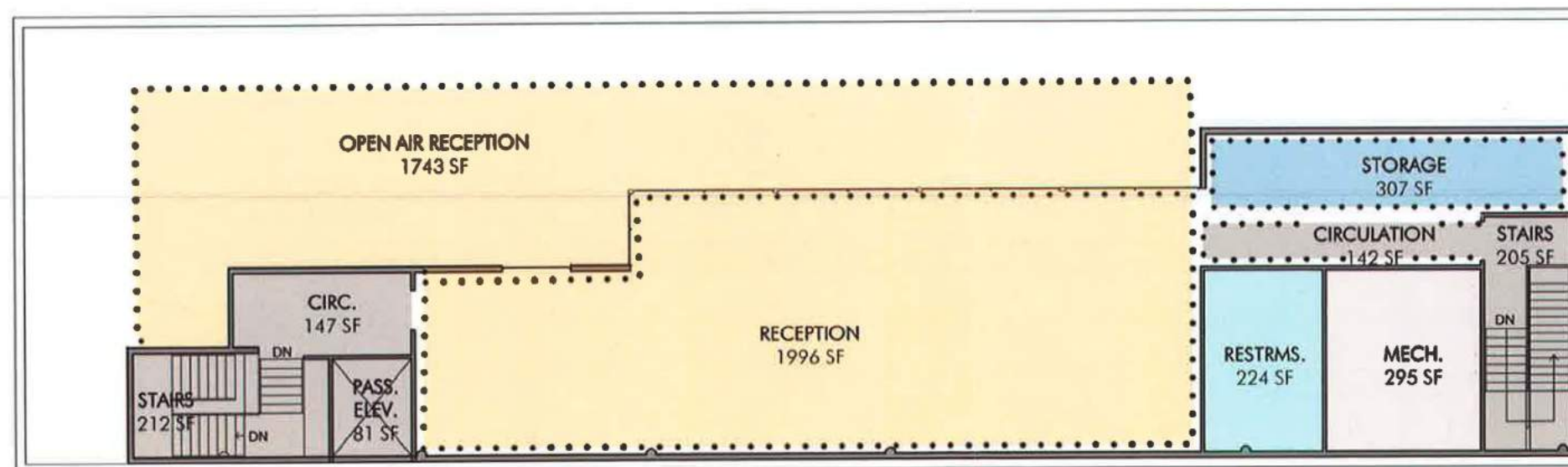
PREFERRED
4 FINISHED FLOORS
+ MEZZANINE

•
PROPOSED
PROGRAM
FLOOR PLANS

3 OF 3

COLOR LEGEND

- MUSEUM STORE & ENTRY
RECEPTION
- TEMPORARY EXHIBITS
- OFFICE
OFFICE SUPPORT
LIBRARY/CONFERENCE
- WORKSHOPS
- EVENT PREP
- PERMANENT COLLECTION
- CIRCULATION
- RESTROOMS
- MECH. & LOADING
- UNUSED SPACE
- STORAGE



1. FOURTH FLOOR/ROOF PLAN - FINISHED OUT
1/16" = 1'-0"

EXHIBIT 9.0

*Texas Historical Commission
June 6, 2011 Letter*

TEXAS HISTORICAL COMMISSION
real places telling real stories

June 6, 2011

Emily Little, FAIA
Clayton&Little Architects
1001 East 8th Street
Austin, Texas 78702

Re: *Project review under Section 106 of the National Historic Preservation Act of 1966 and Federal Rehabilitation Tax Credit program*
Proposed renovation of Mexic Arte, 419 Congress Ave, Austin, Travis County (EDA)

Dear Ms. Little:

Thank you for your correspondence describing the above referenced project. This letter serves as comment on the proposed undertaking from the State Historic Preservation Officer, the Executive Director of the Texas Historical Commission.

The review staff, led by Caroline Wright, has completed its review of the project documentation provided and has the following comments. The building at 419 Congress Avenue is identified as a contributing element in the existing National Register of Historic Places (NRHP) nomination for the Congress Avenue Historic District (drafted in 1978), with a period of significance ending in 1928. The nomination does not include a date of construction for the building though it assumes it to be the building constructed on the site in the 1870s. Further research and physical evidence indicates that the current building was either greatly modified or constructed (perhaps out of parts of an older building) during the mid-1930s, and therefore the building falls outside of the district's period of significance. The current building is, however, eligible for listing in the NRHP as part of a potential expansion of the Congress Avenue Historic District to include a larger period of significance.

For the purposes of the Section 106 process and the Federal Rehabilitation Tax Credit program, the building as it currently stands is considered eligible for listing in the NRHP. In order for the building to be certified as a historic property for the purposes of the federal preservation tax credit program, it will be necessary to revise the Congress Avenue NRHP nomination to expand the period of significance and perhaps the boundaries as well, due to numerous changes made in the area since the 1978 nomination.

The proposed plans presented in the feasibility study dated June 8th, prepared by Clayton&Little Architects, appear to follow the Secretary of the Interior's Standards for Rehabilitation. As such, it appears that the proposed project, if plans are developed in accordance with the submitted feasibility study, should have No Adverse Effect on the historic structure or others in the Area of Potential Effect (APE) and should also meet the requirements of the National Park Service (NPS) as a certified rehabilitation under the Federal Rehabilitation Tax Credit program. Full review of plans cannot be made until final plans are reviewed by the THC and the NPS. As plans are further developed, close coordination with the THC should be maintained to insure that the design and construction documents follow the intentions of the feasibility study and remain in accordance with the Secretary's Standards.

The THC encourages the restoration of the historic blade sign and awning on the Congress Avenue façade as evidenced in the 1936 photograph of the building. While restoration is not required under either Section 106 or the Tax Credit Program, it adds a marked positive note to the rehabilitation

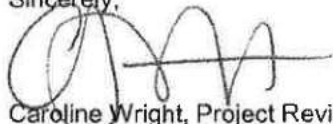


that can help to balance out other work items necessary to meet the functions of the museum that may not be strictly in line with the Secretary's Standards. Additionally, we feel that these elements, along with a restored storefront, will give the building a greater physical and visual presence and will enhance the overall Congress Avenue district. We also support the proposed installation of the banners and mural on the north façade of the building as those are considered to be reversible and will have minimal permanent impact on historic fabric.

If plans are developed that are not in accordance with the Secretary's Standards, including plans to remove significant historic elements or for wholesale demolition of the building, the project will not be certifiable as a tax credit project and will be determined to have an Adverse Effect on the property and the Congress Avenue Historic District under Section 106. Mexic Arte will have to enter into additional communications with the EDA to resolve the Adverse Effect in order to complete the Section 106 coordination process and secure their Federal funding.

We look forward to further consultation with your office and hope to maintain a partnership that will foster effective historic preservation. Thank you for your cooperation in this federal review process, and for your efforts to preserve the irreplaceable heritage of Texas. **If you have any questions concerning our review or if we can be of further assistance, please contact Caroline Wright at 512/463-6214.**

Sincerely,

A handwritten signature in dark ink, appearing to be 'CW', with a long horizontal line extending to the right.

Caroline Wright, Project Reviewer
for: Mark Wolfe, State Historic Preservation Officer

cc: Jonathan Markley, Regional Environmental Officer, EDA

EXHIBIT 9.1

THC/CLA Meeting Memorandum

April 8, 2011

Architects
Clayton&Little
1001 East 8th Street
Austin Texas 78702
512 477 1727

Summary of Meeting with Texas Historical Commission

Friday, April 8, 2011

Present: Caroline Wright, THC
Greg Smith, THC
Emily Little, C&L

SUBJECT: Mexic-Arte Museum 419 Congress Avenue Austin, Texas

Part One: Evaluation of Significance – Greg Smith, THC

1. The building (419 Congress Avenue) is identified as a contributing element in the existing National Register of Historic Places (NRHP) nomination for the Congress Avenue Historic District (drafted in 1978), with a period of significance ending in 1928. The nomination does not include a date of construction for the building. Research and physical evidence indicates that the current building was either greatly modified or constructed (perhaps out of parts of an older building) during the mid-1930s. The building therefore falls outside of the district's period of significance.
2. The desired period of rehabilitation for this building, due to the fragile condition of the brick exterior and stabilizing effects of the stucco veneer, is 1936, per the Karotkin furniture store historic photograph and newspaper articles supporting the significant renovation done during 1934-36.
3. Part 1 of the tax credit application must be prepared at the beginning of the process. The application must demonstrate that the building would contribute to the district once the nomination is amended to expand the period of significance. The THC has a 30-day period to review the completed Part 1 and submit a recommendation to the NPS. The will have a 30 day period to review the application and THC comments.
4. Because the period of significance of the building falls after 1928, it will be necessary to revise the Congress Avenue NRHP nomination to expand the period of significance and probably the boundaries, due to numerous changes made in the area since the 1978 nomination. The period could be expanded to the early 1960s.
5. The revision to the NRHP nomination must be done within 30 months after claiming the credit. It can be done concurrently with planned work on the building, if proper review and approvals by THC are followed. The nomination amendment process should be well under way by the time the credit is claimed, however, to allow for required owner notification, and required review of the National Register nomination by THC staff, the State Board of Review, and NPS staff.
6. It must be decided who will do the Congress Avenue NRHD, Mexic-Arte or the City of Austin in conjunction with other interested parties (Downtown Austin Partners?). It is roughly estimated the revision will take 3 months and cost \$20,000 to \$30,000 dollars if performed by a private consultant. The amendment could be approved by the NPS within 6 to 9 months after the THC receives a completed draft.
7. This path would allow Mexic-Arte to qualify for the 20% tax credits, which is a 20% return of the overall rehabilitation costs including 'soft costs' such as consultants, architects, etc.
8. There is a 10% tax credit option offered by National Parks Service, but our building does not qualify for that as it is specifically for non-historic buildings built before 1936. Neither the THC nor the NPS would likely support the pursuit of the 10% credit for 419 Congress.

-continued-

ARE THEY TAX
EXEMPT DUE TO
CITY & FED
MONEY?

Part Two –Description of Rehabilitation - Caroline Wright, THC

10. The building project will be a rehabilitation and must comply with *The Secretary of Interior's Standards for Rehabilitation and Guidelines for Rehabilitating Historic Buildings*.
11. When original elements are missing, but known to have existed per the historic photograph, such as the blade signs on Congress Avenue and East 5th Street, and the Congress Avenue awning, we are not required to restore precisely what was there, though we may choose to. If we choose to not restore, we are to put something back that is in keeping with the historic design, in the character, yet clearly a new element.
12. The goal is to re-create the feeling of a large spacious interior at the main levels, at least for a large portion of the front of the space in keeping with the traditional feel of a historic commercial space. It will be acceptable to eliminate the central line of columns, if desired.
13. Due to the fragile nature of the existing exterior walls and the new occupancy loads desired by the museum, it will be necessary to provide an entirely new interior structural system, all new floor framing and any new structural elements must be clearly new. A simple round steel column was suggested, painted white. It is not desired to see an 'industrial' intrusion into the historic space.
14. Evidence was found on site at an earlier walk-thru with THC that the ceilings were plastered, as well as the interior walls. THC will want to see finished (sheetrock ok) walls and ceilings. It is desired to reuse the existing wood floors wherever possible. Since the wood floor joists will be covered with sheetrock or plaster, and a new structural system used, the old wood framing lumber will be available for re-use in a tasteful, non-historically mimicking way, in the building.
15. THC prefers at least some of the Mezzanine Level be retained.
16. THC strongly encourages utilization of the existing historic stair in place. It is seen as the one significant remaining interior historic element. This would require a variance as we currently understand the building code, as two enclosed fire stairs are required. THC will assist with code negotiations as much as possible. THC is not in favor of a monumental stair at level one, particularly if it protrudes into the large open 'historic commercial space'. They strongly encourage keeping the historic stair open at least at the first floor and using it as the monumental stair.
17. The Store proposed at the west end of the first floor must have glass walls to remain in keeping with the perception of the 'large open commercial space'. It is not desired to create walls or built elements that close in the space in any way.
18. Preliminary sketches were presented indicating rough ideas for facades, including a large opening to the north on East 5th Street to engage with the street in conjunction with the development of the *Mexican American History and Heritage 5th Street Corridor*. THC recommends keeping the new opening as far east from the Congress Avenue corner as possible. Further development of sketch ideas to be reviewed with THC. In keeping with the historic openings on the building, a new opening should be done in a way that reads as a punched opening in the façade rather than a removal of a large expanse of wall. A smaller scale canopy associated with the opening is acceptable.
19. Exterior murals on the north wall are acceptable to THC. Locations could be presented for preliminary review or approved at a later date.
20. THC will approve enclosed spaces on the roof/4th floor, provided the elements are not visible from two vantage points, one from the northwest corner and one from the southwest corner of Congress and West 5th Street. These angles were plotted and presented to THC in sketch form for review. It was determined that a portion of the fourth level could become enclosed space. The new building must be set back

-continued-

approximately 28 feet from Congress and 18'-6" from 5th Street. THC will consider a small enclosed stairwell close to the Congress Avenue façade, depending on how the exterior is treated; try to make it slope away from Congress if possible, per stair layout. All elements must pass THC review.

21. Can the building be torn down? This would be considered "an adverse effect" on the historic building and it would need to go through some form of mitigation, which typically includes documentation of existing conditions. The 106 coordination completed with EDA at this point has stipulated that the proposed work will have No Adverse Effect on the property. The EDA would strongly prefer that the project be designed with this end goal. If this is not done, the EDA may be open to discussions on how to resolve an adverse effect but may not be accepting of this alternative.

If it is determined by a structural engineer that the building is built in such a way that makes rehabilitation impossible and that rebuilding from scratch is necessary, that would not be considered an adverse effect, but would have to be predicated on substantial documentation of the inadequate structural conditions.

END

EXHIBIT 9.2

*COA Historic Preservation Office
June 6, 2011 Letter*



City of Austin

Founded by Congress, Republic of Texas, 1839
Historic Preservation Office
Planning and Development Review Department
One Texas Center, 505 Barton Springs Road
P.O. Box 1088, Austin, Texas 78767

Emily Little, FAIA
Clayton & Little Architects
1001 East 8th Street
Austin, Texas 78702

June 6, 2011

RE: Mexic-Arte Museum
419 Congress Avenue
Austin, Texas

Dear Emily:

According to the proposed plans by Clayton & Little Architects, dated June 8, 2011, the preliminary schematic design of the Mexic-Arte rehabilitation project appears to be in accordance with the guidelines for rehabilitation of a contributing building within the Congress Avenue National Register Historic District.

We look forward to working with you in the continuing process of developing the final design for this project. We will recommend reconstruction of the historic blade sign and awning on Congress Avenue based upon historic ca. 1936 photographs of the building. We will also recommend the installation of the banners and mural on the north elevation as they are impermanent elements, reversible, and have no significant impact on the historic fabric of the building.

Please feel free to contact me at 974-6454 if you have any questions about this letter.

Sincerely,

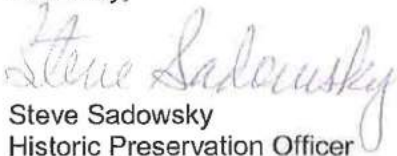

Steve Sadowsky
Historic Preservation Officer

EXHIBIT 10.0

Photographs and Location Plans

Exhibit 10.0
Photographs and Location Plans



Photo 1
Unknown "through-wall"
penetrations



Photo 2
Veneer Cracking above storefront
NOTE: tie rod end plate



Photo 3
Close up of Photo 2 area

Exhibit 10.0
Photographs and Location Plans



Photo 4
Veneer Cracking above store front



Photo 5
Close up of Photo 4 area



Photo 6
West Face, obsolete fire escape

Exhibit 10.0
Photographs and Location Plans



Photo 7
West Face, only original 1860's
brick façade

AIR SPACE / VIEW?



Photo 8
Mexic-Arte Museum's adjacency to
Frost Bank Tower

WHO'S PROPERTY?



Photo 9
SW Corner of Mexic-Arte Museum,
adjacent to Frost Bank Tower

Exhibit 10.0
Photographs and Location Plans



Photo 10
Close up of Photo 9
NOTE: Assumed additional Tie Rod Plates



Photo 11
SW Corner above store front
NOTE: distinct cracking



Photo 12
Ground floor, Test Pit #2 location

Exhibit 10.0
Photographs and Location Plans



Photo 13
Ground Floor, Test Pit #3 location



Photo 14
Ground Floor, Test Pit #1 location



Photo 15
3rd Floor, North Wall Area
Ref: 1985 Report by Nyfeler
Organization

Exhibit 10.0
Photographs and Location Plans



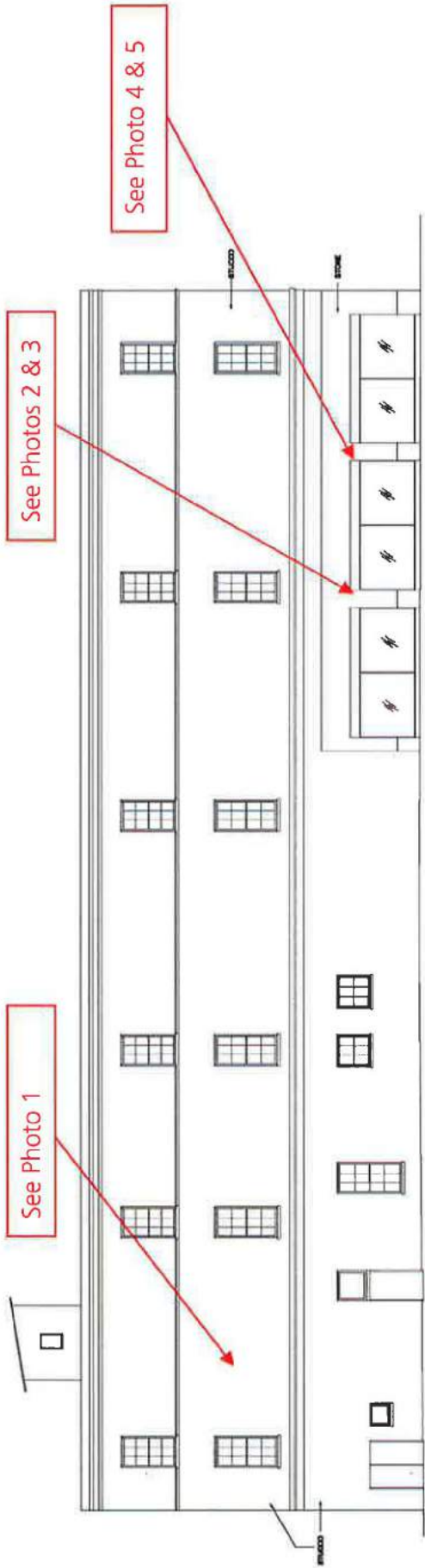
Photo 16
3rd Floor, North Wall Area
Ref: 1985 Report by Nyfeler
Organization



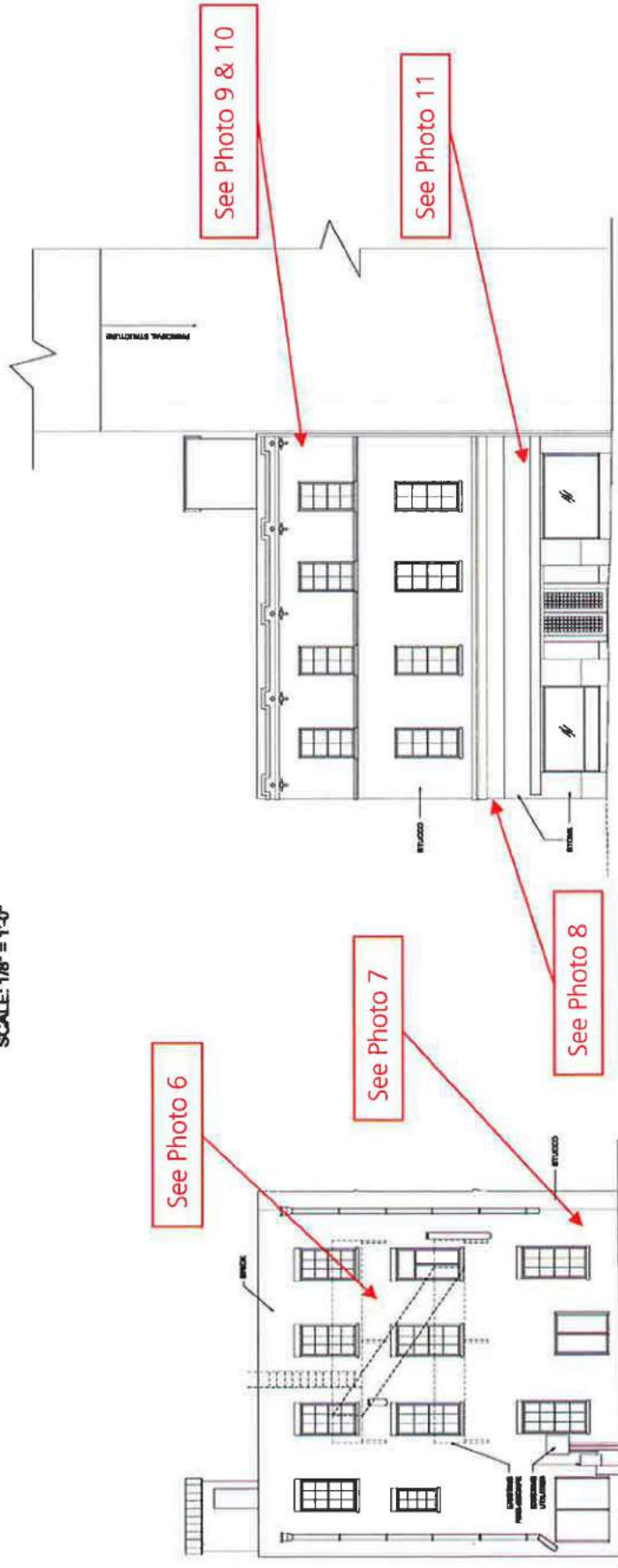
Photo 17
3rd Floor, North Wall Area
Ref: 1985 Report by Nyfeler
Organization



Photo 18
2nd Floor water stained ceilings
(typical through out entire floor)



NORTH ELEVATION
SCALE: 1/8" = 1'-0"



WEST ELEVATION
SCALE: 1/8" = 1'-0"

EAST ELEVATION
SCALE: 1/8" = 1'-0"

EXHIBIT 11.0

*Excerpt from "Preservation Needs Assessment"
Report – May 22, 2010*

MEXIC-ARTE MUSEUM
PRESERVATION NEEDS ASSESSMENT

May 2010

Submitted by: Sue Murphy



4.0 The New Facility

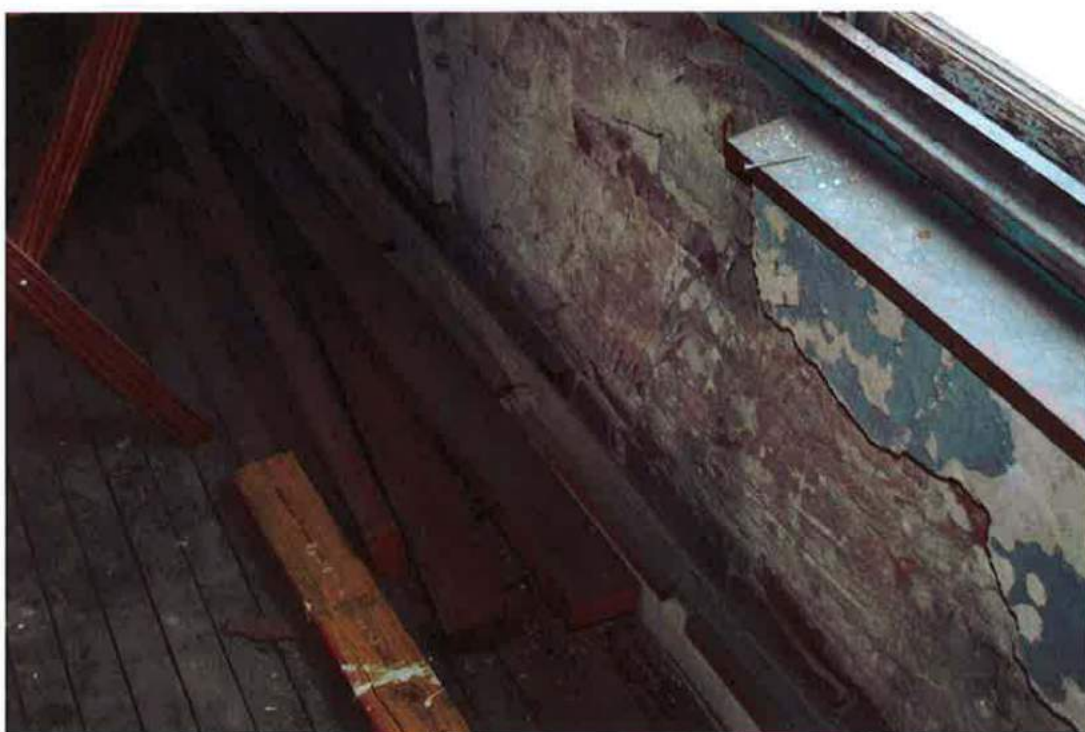
4.1 Existing Structure

Mexic-Arte's building in downtown Austin was built in 1868, but little of that original structure remains. A few years ago, the museum paid a consultant to do forensics on the structure and the Executive Director quotes the resulting report as stating that only 10-15% of the original building remains. Therefore the structure cannot be considered historic or to retain much if any heritage.

For this reason, the museum has the option of either renovating/retrofitting the existing shell or tearing down the building and creating a new structure on the site.

The present structure is primarily a three-sided façade held together with wooden struts and trusses. It has a common wall with the business next door. Though there is some brick and mortar construction, the top three floors are basically wooden pier and beam.





It is not clear if the building is completely sound as it is. A few years ago the roof blew off during a storm. Some steel cable was added across the roof to shore up the wall on the north side.

Recommendations:

The cost of renovating the building to accommodate the specifications in this report in order to house and exhibit collections safely could well far exceed the cost of rebuilding completely on the site. Retrofitting existing facilities to meet conservation standards for storage and display of collections is expensive and sometimes not feasible.

It is advisable to have a structural engineer evaluate the safety of the existing structure and recommend what it would take to make it safe. The museum should obtain estimates from contractors for the project as presently proposed, including adhering to the proposed environmental standards outlined in this report. This cost should be compared to the cost of demolition and rebuilding, in order to make an informed decision.

4.2 Retrofitting the Existing Building

The existing building is wood-framed. Even with new HVAC systems, it will be difficult to achieve the environmental storage specifications noted in this report without creating isolated micro-environments. This will likely be more expensive than new construction. An engineer and architect should be consulted within the next year to evaluate this choice.

4.3 Temporary Storage During Construction

The plan is for Mexic-Arte to move its collections to off-site storage during construction. It is recommended that the environment in this storage meet or exceed the specifications for the museum's building storage provided in this report. All collections should be wrapped and boxed and transported in environmentally controlled vehicles. There are commercial art storage facilities in Texas that Mexic-Arte can use for its collections when the time comes to vacate the building.¹¹

4.4 Fire Detection and Suppression

The American Association of Museums (AAM) has delineated fire protection guidelines for museums and describes the options of suppressing fires as:

These systems may consist of water sprinkler systems, halogenated extinguishing

¹¹ The following companies are used by the Blanton Museum of Art at the University of Texas at Austin. In Dallas/Ft. Worth: Displays Unlimited, Arlington 817-385-4433 and Artemis, Dallas 888-652-7836; in Houston: Crateworks 713-681-7166, and 360 Art Services 713-526-9711.

systems (after a careful evaluation of the environmental impact of such systems) or other automatic suppression systems. The most reliable system is the water sprinkler system; while a wet pipe system is the best, a cross-zoned, dry pipe, pre-action systems can be used.¹²

The wet pipe systems are the most common and indeed the most reliable. Dry pipe systems are expensive and require diligent maintenance. For this reason, the dry system is used primarily for cold storage, where conditions are at or below freezing.

Halogen systems are used in museums on occasion, but are now strictly controlled as they are considered damaging to the environment. Other gaseous systems are available, such as the DuPont FM-200, see Appendix X, that have not been found to cause environmental damage, and leave behind no residues or water that can damage collections. However, these systems are expensive and much be monitored carefully.

It is therefore recommended that Mexic-Arte Museum consider use of a wet pipe fire suppression system with sprinkler heads installed at least in the collection and other non-public areas. More information on these specifications can be found in the AAM report.¹³

4.5 Environmental Specifications for Construction

The Goodwin report describes the planned new facility as being "equipped with environmental controls and enhanced security to preserve collections and loaned works of art".¹⁴ And that it will provide "improved art storage".¹⁵ Also, objectives for the facility in the report include "...adequate environmental control to maintain museum quality temperature and humidity levels wherever art is stored and/or displayed".¹⁶

The staff has begun to make a list of their needs and wishes for the new building. Items suggested include, but are not limited to: collections work room/processing room, exhibition gallery, collections storage facilities, staff offices, and staff break room. When the time comes, it will be important for staff to be prepared to recommend specifications for the design and infrastructure for the space, as well as

¹² For more detail, see Suggested Guidelines for Museum Security, as adopted by the Standing Committee on Museum, Library and Cultural Property Protection of the American Society for Industrial Security, page 15, Fire Protection, Section 5 revised 2002.
architectssecuritygroup.com/Consulting/Standards.../GuidelinesRev2002.pdf

¹³ Ibid.

¹⁴ Op cit, Goodwin, pg. 39.

¹⁵ Ibid.

¹⁶ Ibid. pg. 41.

This section will address three categories of areas where collections will be exposed to light: (1) storage, (2) exhibition, and (3) multi-use areas. Multi-use areas provide short-term storage of collection items during processing, research, or other work related activities.

Lighting in Storage Areas

- ❑ Natural light should be excluded as much as possible from collection storage areas.
- ❑ Windows should be coated with a plastic film to block at least 95% of all UV; the film should also be tinted to restrict emission of visible light to 30% or lower.²²
- ❑ No outside light should be allowed to strike collection materials directly at any point during the day. If necessary to prevent this from occurring, curtains could be draped in collection storage areas.
- ❑ Maximum lighting levels within storage should not exceed 4 FC at working height, 3-5 ft. above the floor
- ❑ Minimum 1.25 FC at the floor for safety
- ❑ Maximum lighting levels in areas with fixed access to shelves within a storage area should not exceed 5 FC at working height, 3-5 feet above the floor. Minimum 1.25 FC at the floor for safety
- ❑ Should slightly higher levels of visible lighting be required for safety, lights should be set on sensors and timers to be certain they go off after staff leaves.

Artificial Lighting Recommendations for Storage Areas:

- ❑ No UV light – 380 nm wave length and lower²³
- ❑ No infrared light – 770 nm wave length and higher
- ❑ Light color, pure white
- ❑ Color temperature – 3200°Kelvin
- ❑ No heat generation permitted by the light fixture at the point of light distribution

Organization. Footcandle is the English system unit of illumination. One footcandle is 10.76 lux. One lux is therefore 0.0929 footcandle. For purposes here, the ratio of 11 to 1, lux to footcandle, will be used.

²² Windows in rooms where collection materials are kept either short or long term, should be covered with UV filtering plastic film to block out as much UV as possible, and should keep the UV levels from exceeding the level stated above.

²³ Fluorescent light bulbs in all areas where collection material is displayed, stored, or used should have UV shields on the bulbs. Where compact fluorescent light bulbs (CFL) are used, varieties purchased should specify that the bulbs have filters designed into the bulb, or they should be covered with UV filtering plastic. For example, in the case of recessed cans, a sheet of UV filtering film can be used to coat a plastic cover.

- ❑ Provide areas of corrected/enhanced lighting for specific tasks required by staff; no UV emitted by these local lights

Exhibition Areas

- ❑ Exhibition light levels should be adjustable to task; the light levels discussed below refer only to those levels for display during public hours.²⁴
- ❑ Lighting levels in exhibition areas should be kept as low as possible, while still allowing visitors to view the material. Visible light levels should not exceed 5-7 FC (55-77 lux) falling on the object on display. UV levels should be screened out completely if possible, but should not exceed 75 µw per lumen at the object on display.²⁵
- ❑ Exhibition lights should only be turned on during public hours.
- ❑ When possible, it is advisable to have motion sensors to turn on lights as visitors enter an exhibition space.

Lighting in Multi-Use Areas

- ❑ Ambient lighting in areas where collections are stored temporarily, and where the staff and/or the public work, should be kept to a minimum.
- ❑ Local lighting sources are usually the most effective at achieving this. Rooms with windows with east and/or west exposure(s) should have tinted film.

4.7 Prohibited Construction Materials and Products

During construction it is best to avoid products that off-gas harmful volatilizing organic compounds (VOC) or other chemicals. The National Archives specifies prohibited chemicals and products, including, but not limited to: polyurethane products, formaldehyde emitting compounds often found in particleboards, and acid-curing sealants.²⁶

4.8 Guidelines for Maintenance of New Storage Areas

The following recommended points should be considered once the construction project is completed:

²⁴ Michael Belcher, *Exhibitions in Museums*, Smithsonian Institution Press, Washington D.C., 1991, pg. 128, explains: "Gallery lighting should consist of three separate systems: house lights, for working and cleaning purposes; display lights, for when the exhibition is open to the public; and emergency lights for use should either of the systems fail."

²⁵ Films and plastics that have been coated or impregnated with UV filtering capabilities can deteriorate, reducing the effectiveness over time. Therefore, monitoring UV levels is recommended on a regular basis using a sensitive meter that can detect low levels of UV.

²⁶ Op cit., NARA 1571, pg. 9.

- 1) Before collections have been relocated to the new space, data loggers should be installed and collection areas monitored closely and regularly. For the first few months data should be reviewed more frequently, especially during the spring and when outside humidity is up and temperatures near the HVAC set-point for the building. Additional snapshot monitoring should be done with an Elsec meter or the equivalent to verify the accuracy of the data. Once the environment meets specifications for a pre-determined amount of time, collection materials can be relocated to the new storage areas.
- 2) Staff working in collection storage should keep this time to a minimum. It is better to use local lighting for any activity other than pulling materials. Local lighting should have maximum lighting levels that do not exceed 4 FC at working height, 3-5 ft. above the floor. Maximum lighting levels of local lighting in areas with fixed access to shelves within a storage area should not exceed 5 FC at working height, 3-5 feet above the floor.
- 3) All collection materials on top shelves or at the top of screens should not be paper-based or especially sensitive to light.
- 4) If the building is renovated, it is advisable to take out the built-in shelves and replace them with metal shelving. Nothing should be stored on the floors of collection areas. All materials and items that are on the floors should be either removed from the room or moved up onto the shelves. All the areas underneath the shelves need to have access for frequent thorough cleaning.
- 5) At least one clean uncluttered table should be kept available in the areas for accessing collections. The table should be big enough to accommodate the largest object, as well as a storage box when opened. When objects are pulled and placed on this table, the policy should be that they are re-shelved within 24 hours.
- 6) It is advisable that staff and interns not work for any extended amount of time in the areas where collections are stored. The presence of workers jeopardizes the goal of a well-controlled environment. If possible, workers using collections should be located in a nearby clean secure area.
- 7) All objects stored on open shelves should be covered with acid-free/lignin-free tissue.
- 8) Collections should not be stored near rooms with running water such as kitchens or bathrooms. Appliances provide hiding places for pests, and perhaps should be removed if any pest problems cannot be controlled. Floors should be kept clear and made easy to vacuum and clean thoroughly on a regular basis.
- 9) A section on Integrated Pest Management Program in the Museum's Collection Policy document should be included. And a one to two page policy should be written and posted in the kitchen or catering areas for all staff and volunteers. Specifics should be included regarding such issues as when and where food is allowed, how frequently the refrigerator should be emptied and cleaned, and exactly how often the kitchen should be cleaned.